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Nancy J. Turner
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Wild Coffee and Tea Substitutes of Canada

Edible Wild Plants of Canada, No. 2

National Museum of Natural Sciences
National Museums of Canada

Wild Coffee and Tea Substitutes of Canada

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Illustration Credits

Oldriska Ceska did the drawings reproduced on pages 24, 26, 50, 55, 61, 68, 77, 82, 85, 89 and 92.

Andrew M. Brown took the colour photograph on page 59, Chuck Gruchy the one on page 95, and Robert D. Turner and Nancy J. Turner those on pages 34, 40, 44, 72, 80 and 99.

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Preface

The average adult Canadian consumes between one and two litres of liquid a day in the form of soups, milk, fruit juices, and other beverages. People living in warmer climates or those engaged in strenuous exercise need even more fluids. Man can survive without food much longer than he can survive without water or some other form of liquid. Given these facts it is natural that beverages play such an important role in our diet. Some people take their daily fluid requirement in the form of water, but in many localities the water is unsafe or unpalatable, and in any case most of us prefer to drink something with more flavour. Also, many prefer to take their fluid hot, at least part of the time.

Coffee and tea have long been used as hot, flavourful beverages throughout much of the world. Based on 1975 estimates, the average adult Canadian consumes 9½ lb (4.3 kg) of coffee and 2½ lb (1.1 kg) of tea a year. For reasons of both economy and health, however, many Canadians are trying to reduce their consumption of coffee and tea or to stop drinking them completely. There are a number of coffee substitutes and part-coffee blends on the market, as well as many different kinds of herbal teas. In addition, it is possible to grow your own tea herbs and to make good substitutes for coffee from grains and other commercially available substances. To add an extra dimension to your search for coffee and tea substitutes, you may prefer to harvest your own products from wild plants.

This book provides instructions for collecting and preparing many wild teas and coffee substitutes. It also gives their botanical descriptions and distributions. Some, like dandelion, chicory, wild rose, and Labrador tea, are widespread in Canada and are familiar to most people; others, such as beechnut and basswood, are more restricted in range and are not so well known. Some are introduced weeds; many are native plants. All of them provide a satisfactory, and in some cases superb, beverage costing you only the time and effort spent on collecting and preparing them. They can be enjoyed equally well at home or around the campfire on an outing. Since they are usually easy to make, they are an excellent introduction to the realm of wild foods cookery.

In all, over twenty-five wild coffee and tea substitutes are discussed in this book. The majority of them have been used by Indian peoples or by early explorers and settlers for centuries, and many are the same as or related to plants that have been used as beverages in Europe or elsewhere. In addition to serving as substitutes for coffee or tea, a number can be eaten as vegetables or used as flavourings or medicines. Where possible, we have provided details on the history of the plants described and their applications as foods, materials, and medicines.

We have added two new plants that until now have not been widely used as coffee substitutes: balsamroot and Jerusalem artichoke. Both are known as edible wild vegetables, and Jerusalem artichoke, as well as growing wild, is commonly cultivated in Canadian gardens as an increasingly popular replacement for the potato. These plants are related to the better-known coffee substitutes — dandelion and chicory — and contain the same carbohydrate source, a complex sugar known as inulin, which helps give dandelion and chicory the qualities that make them good beverage sources.

More experimenting should be done, using edible roots, grains, and nuts, to produce beverages that can replace coffee, since it seems likely that coffee and even tea will become more expensive and difficult to obtain in the future. Also, in this stress-filled, busy world, we certainly should not need extra stimulation in the form of caffeine.

Editor's Note

The transition from the imperial system of weights and measures to the international metric system has prompted the use of both systems in this book. The recipes were originally developed under the imperial system, and have been converted to their closest metric equivalents based on the Canadian Metric Commission's guidelines. These "equivalents" are actually replacements, and sometimes involve slightly larger amounts than the original imperial measures. For example, the 8-ounce cup is actually equivalent to 225 ml, but the standard metric measure that replaces it holds 250 ml. As a result, the metric conversions of the recipes in this book sometimes yield slightly larger amounts than do the original recipes.

The Need for Coffee and Tea Substitutes

Human beings are creatures of habit, with a genuine need for a certain amount of daily routine. We generally go to bed and rise at set hours; we eat our meals at the same time each day, usually selecting foods to which we are accustomed; and we go to work, by choice or by necessity, at the same time every day. Furthermore, most of us, in North America at any rate, participate in that ever-popular institution, the coffee break.

The inclusion of the coffee or tea break in our daily routine is an indication not only of the popularity of coffee and tea in our society, but of our reluctance to accept a change in habits. Nevertheless, many people are coming to the realization that such a change is necessary. Coffee, which used to cost 5 or 10 cents a cup, is now 30 cents or even 50 cents a cup in many places. The cost of a pound of coffee beans has tripled or quadrupled in the last few years, and instant-coffee prices have risen accordingly. The price of tea has also climbed steadily upwards, and it may be that both tea and coffee will soon be financially inaccessible to all but the very rich, as they were during the depression years of the thirties.

There are other aspects of coffee and tea that are of major concern to health officials and to the general public. Both plants contain substantial concentrations (1 to 2 per cent in coffee beans, 1 to 4 per cent in tea leaves) of the compound caffeine (technically 1,3,7—Trimethylxanthine), which acts as a stimulant to the nervous system and also affects the kidneys, muscles, and heart. Many people find that caffeine produces jitteriness and insomnia, and can aggravate high blood pressure. Caffeine can also be somewhat addictive, as many have found when they suddenly stopped drinking tea or coffee. A standard cup of coffee may contain as much as 100 mg of caffeine, whereas the equivalent amount of tea (usually brewed in weaker solution) may contain 30 to 60 mg. The caffeine in tea is generally known as theine. Caffeine is also present in kola nuts (used in the manufacture of a number of soft drinks), in cacao (or chocolate), and in maté (a popular tea substitute used in South America).

Coffee manufacturers have attempted to alleviate the problems of people who are sensitive to caffeine by preparing various decaffeinated coffees, extracting almost all

the caffeine, yet retaining the pleasant coffee aroma. However, these decaffeinated preparations are generally more expensive than regular coffee, and some people react more to the chemicals used to remove the caffeine than they do to the caffeine itself. Furthermore, coffee contains other potentially harmful compounds, including caffeol, the oil that gives coffee its characteristic aroma.

As we consider the high prices of coffee and tea and as we learn more about the possible short-term and long-term effects of these substances on human physiology, we are becoming more willing to change our habits and to experiment with alternatives. A search for new and different drinks can be an adventure in itself, and should be looked upon not as a necessary evil forced upon us by high coffee prices or the ill effects of caffeine, but as an expansion of our experience and a break from everyday routine.

You can begin your search for coffee and tea substitutes at your local health-food shop or delicatessen, in the specialty section of your grocery store, or even in regular tea and coffee displays. Many supermarkets now sell coffee substitutes made from grains and other products, or blends made partly from coffee and partly from roasted chicory root or some other coffee-like substance. You will be surprised at how good some of these substitutes and blends are, and the reduction of your daily caffeine intake can only benefit you. The tea substitutes or herbal teas available are even more numerous and varied. They can be obtained both as pure products—for example mint tea, camomile tea, and rose-hip tea—or as blends, under such exotic names as Red Zinger, Mystic Spice, and Sunrise.

If you like to experiment, you can make your own coffee and tea substitutes using everyday ingredients such as sunflower seeds, barley, rye, oats, wheat, flax, corn, commercial chicory, and molasses for "coffee", and garden herbs for "tea", or you can gather and prepare wild plants, such as those included in this book. You can also use these materials to stretch your supply of regular coffee and tea. Alone or blended, they will help both your pocketbook and your nerves, at the same time giving you a new taste experience.

For making coffee substitutes from grains and other commercial products the reader is referred to a new and most useful booklet, *Mock Java* by Joe Ritter and Allan Safarik. There are numerous books available at health-food stores and bookstores on how to grow and prepare traditional herbal teas. Wild coffee and tea substitutes have been discussed in many books dealing with edible wild plants, including *Stalking the Wild Asparagus* by Euell Gibbons; *Iroquois Foods and Food Preparation* by F. W. Waugh; *Edible Wild Plants of Eastern North America* by M. L. Fernald and A. C. Kinsey; *The Edible Wild* by Berndt Berglund and C. E. Bolsby; *Field Guide to Edible Wild Plants* and *Feasting Free on Wild Edibles* both by Bradford Angier; and *Eating from the Wild* by A. M. Stewart and Leon Kronoff.

The aim of this book is to provide Canadians with a general guide to wild plants that can be used as tea and coffee substitutes, with directions on their basic preparation and use, and some suggestions for varying the standard means of preparing them. Included are many of the more popular and traditional wild-plant beverages as well as a few new suggestions developed by the authors and found to be most satisfactory.

The History of Coffee

Coffee is prepared from the roasted and ground "beans" (seeds) of an evergreen shrub *Coffea*, a member of the madder family (Rubiaceae) and indigenous to tropical Africa. There are several species within the coffee genus, of which *Coffea arabica* L. is the best known and the most important historically.

The coffee plant has small fragrant white flowers borne in clusters along its branches. These ripen into round deep-red berries, each of which contains two seeds, known to us as coffee beans, surrounded by an edible pulp. For cultivation, coffee requires a hot, moist climate, with a rainfall of about 125 cm, and rich, volcanic soil. It grows up to 1800 m elevation, and in fact the best grades of coffee come from the higher altitudes.

The early history of coffee is very fragmentary. By some accounts it originated in the Sudan, and by others in Abyssinia. As early as A.D. 1000 it was used as a food by native peoples, who crushed the soft, pulpy berries and mixed them with fat. Wine was also made from the fruit; some peoples

made a beverage from the leaves. The use of the roasted ground beans to make the beverage we know today as coffee was recorded first in Arabia, around the fifteenth century. This drink soon became popular in Egypt and elsewhere in the Mediterranean and Middle East. By the mid-seventeenth century it had been introduced to France and England, and in the next century coffee plants were being cultivated in Indonesia, the West Indies, and Central and South America. Coffee gained popularity in North America and became a staple American beverage when tea fell into disfavour following the Boston Tea Party incident in 1773. Today the New World is overwhelmingly a coffee-drinking land, and Latin America has become the largest grower, led by Brazil, where coffee plays a most important role in the national economy.

It is important to note that the United States consumes over half of the world's coffee production. In dollars this constitutes one of its largest imports. Canada is also a major consumer of coffee, exceeded only by such countries as France and West Germany.

Coffee is traditionally prepared by percolating or filtering boiling water through the finely-ground roasted beans. It can also be made by direct infusion of the ground beans in boiling water. Coffee became a popular beverage because of its fragrant aroma and its fatigue-allaying properties. However, when taken in excess, its caffeine content is said to cause irritability, depression, and indigestion. As mentioned previously, some manufacturers have introduced a number of decaffeinated coffees in recent years. There is even one species of coffee indigenous to the Malagasy Republic that produces seeds containing very little or no caffeine. Nevertheless, most coffee drunk today contains significant concentrations of this compound.

Soluble, or instant, coffees (coffee extracts combined with maltose or dextrose), developed in the 1940s, have become very popular in the United States and Canada because of the speed and ease with which they are made. Freeze-dried instant coffees have also gained popularity recently. Because they are made by quick-freezing percolated coffee, they are said to contain more of the original coffee aroma and flavour than regular instant types. However, they are expensive to produce and, like that of coffee in any form, their price has risen sharply within the past few years.

Today coffee manufacturers are marketing various coffee blends using chicory and grains. These are cheaper than conventional coffees, contain less caffeine, and may in time become accepted in our society as a substitute for pure coffee in the same way that margarine is accepted as a substitute for butter.

The History of Tea

Tea is prepared by the infusion in boiling water of the dried leaves of an evergreen shrub, or small tree, botanically known as *Camellia sinensis* (L.) O. Kuntze (syn. *Camellia thea* Link.) of the tea or camellia family *(Theaceae)*. The tea tree is indigenous to eastern Asia. Only the young and tender leaves are used in the process of making commercial tea. The mature leaves are rather thick and leathery and are not suitable. The fragrant white flowers grow from the axils of the leaves, maturing into hard-shelled fruits resembling hazelnuts. Neither flowers nor fruits are used in tea making. Tea plants require a warm, moist climate and well-decomposed organic soil. They grow at elevations up to 2100 m above sea level.

The history of tea is well documented. Tea is mentioned in Chinese literature as early as the third century A.D., and was cultivated in China on a commercial basis by the eighth century. In Europe, tea made its appearance in the early 1600s, and by 1660 it was widely used in England. In those early days of its use by Europeans it sometimes sold for as much as $30 to $50 per pound! It is interesting to note that tea was a popular drink in the American colonies until the time of the famous Boston Tea Party of 1773. In the port of Boston a group of American colonists led by Samuel Adams boarded ships containing tea and dumped the cargo into the harbour in a dispute over the duty required for American goods at English ports. In punishment, the British Parliament passed the Boston Port Bill, which closed the port until the East India Company was compensated for the tea destroyed in the affair. All the colonies supported the Bostonians, and the incident was among the many grievances that led to the Revolutionary War of 1776 and the eventual secession of the colonies from Great Britain. Thereafter, tea met with disapproval among a majority of the colonists, and coffee became the staple beverage of the Americans.

There are three major types of tea: green, black, and oolong. Green tea is prepared in China and Japan by rapidly drying the

freshly-picked leaves in copper pans over mild heat. Often the leaves are rolled in the palm of the hand during drying. Black tea, prepared mainly in Sri Lanka and India, is made by allowing the fresh leaves to ferment in a warm, moist place for about twenty-four hours and then rapidly drying them. During fermentation the colour of the leaf changes from dark green to coppery, and its odour becomes rather fruity. Oolong is an intermediate tea in flavour and colour. The leaves are only partially fermented before being rolled and dried.

The flavour of tea is due mainly to a yellow volatile oil; the stimulating properties are due to caffeine, or theine as it is called in tea; and the astringency is due to the tannic-acid content. In black and oolong tea, the tannic acid is reduced by the process of fermentation.

Half the human race drinks tea daily or occasionally, and in Japan and other parts of Asia tea drinking is an elaborate ritual. Today one can say that tea is used in greater quantity than any beverage other than water. Currently, the leading producers of tea are India, Sri Lanka, Japan, and China. The chief consumers are Great Britain, New Zealand, Ireland, Australia, and the U.S.S.R. The annual average consumption of tea per capita is about 9¼ lb (4.2 kg) in Great Britain, 2½ lb (1.1 kg) in Canada, and ¾ lb (0.34 kg) in the United States.

Many different blends of teas are produced by using varying proportions of tea leaves from different regions or varieties of plants, and by flavouring the leaves with such substances as jasmine blossoms, citrus peel, cloves, and other spices and herbs. For convenience, most types of tea can be obtained in bulk form or in tea-bags, eliminating the need for straining the tea before serving. Iced tea is widely used in North America as a cooling summertime drink, and even instant teas have been developed in the same manner as instant coffees.

The History of Coffee and Tea Substitutes

Hot beverages of one type or another are known to peoples throughout the world. Plant infusions, or teas in the broadest sense of the word, are one of the most common forms of medicines and tonics. In fact, it may well be that tea and coffee themselves were originally administered for medicinal purposes before they gained recognition as stimulating beverages. Only within the past few centuries have tea and coffee been widely exported from their regions of origin. Even when they did become known in Europe and elsewhere in the world, they were usually only available to the wealthy upper classes.

Gradually, as the price of these luxury items decreased, more and more people were able to enjoy them, but always in times of war and economic crisis, tea and coffee became scarce again, and often could be obtained only through the black market. At such times, tea and coffee substitutes became the order of the day. In Eastern Europe, for example, the staple "coffee" during the First and Second World Wars was made from roasted barley or rye blended with chicory, and the usual tea was made from linden blossoms.

In areas away from the centres of commerce and civilization, such as North America during the era of exploration, trade and early settlement, coffee and tea were equally rare, and wild plants within the vicinity became the chief beverage materials. Often the knowledge of such plants was obtained from the native peoples. Hence, Labrador tea, sweet birch twigs, evergreens, New Jersey tea, sassafras, wild bergamot, and many others that became the basis of teas for white traders and settlers in North America had already been used for many years by the native inhabitants. Similarly, in South America, explorers and traders quickly adopted the traditional native beverages, including chocolate (*Theobroma cacao* L.) and maté, or Paraguay tea (*Ilex paraguensis* A. St. Hil., related to the common English holly).

Thus, throughout history—during wars, famines, depressions and eras of colonization—there have been many times and circumstances when tea and coffee were not available to the majority of people. Today tea and coffee substitutes are once again gaining popularity as, in the interests of economy and health, many people are trying to reduce their consumption of regular coffee and tea.

You will enjoy the beverages included in this book even more if you regard them with a sense of history. As you sip your first cup of sassafras tea, picture yourself as an early settler patiently awaiting spring and the arrival of the next shipload of supplies—including a precious package of real tea—at the port a hundred miles away from your homestead. Or, while enjoying your evergreen tea, think back to the time of Jacques Cartier on the St. Lawrence and how this very beverage, offered by a group of local Indians, saved Cartier's entire overwintering expedition from death by scurvy. When you try Labrador tea, remember the early traders and "servants" of the Hudson's Bay Company who found this drink "very pleasant". When preparing chicory, dandelion, or beechnut coffees, try to imagine their use in wartime Europe or in North America during the depression years, and while you ponder your own good fortune by comparison, your mock coffee may taste better than the real thing!

How to Gather and Prepare Coffee and Tea Substitutes

The gathering of wild coffee and tea substitutes may be somewhat laborious when compared to the casual manner in which we buy coffee and tea at the grocery store, but you will find your efforts well worthwhile. "Coffee" roots and other underground parts, whether of chicory, dandelion, or Jerusalem artichoke, are best dug in the late fall or early spring, but they can be collected throughout the winter months in areas where the snow cover is light. They should, of course, be washed and scrubbed thoroughly, but there is no need to peel them.

Fruits used as coffee substitutes, including nuts, bedstraw, juniper berries, and wild grains, should be gathered when thoroughly ripe. Usually it is necessary to catch the fruits just before they fall and then, before processing, store them for a few days until they mature completely.

Coffee substitutes are generally roasted in an oven or over a fire until they are crisp and deep brown in colour. They can be quick-roasted under a broiler, but it is usually preferable to roast them at a moderate temperature 120° to 180°C (250° to 350°F) for one or two hours. Roasting is a critical part of the preparation. If the materials are underdone, they will not store properly and will not yield a good coffee flavour. The other extreme is equally undesirable; no one likes to drink charcoal! To ensure even, thorough roasting, coffee substitute materials such as roots and tubers should be cut into small pieces of equal size and spread out on a tray or cookie sheet. All the coffee substances can be finely ground (after they are roasted or just before using) in a coffee grinder, blender, mortar and pestle, or with a rolling pin and breadboard.

Leaves to be used as teas should, in general, be gathered when they are fully mature, on a warm, dry morning. There are some exceptions, however, and you should follow closely the instructions for individual species. Fruits used in teas—rose hips, blueberries, and wintergreen berries, for example—should be collected when they are fully ripe, but for those that remain on the bushes for a long period of time, there is considerable leeway in the potential collecting time. Twigs and barks, such as those of sassafras and sweet birch, can be harvested throughout the year.

Almost all tea materials can be used fresh, but for year-round use they should be thoroughly dried: hang them up in a paper or cloth bag in a warm spot, or spread them out in a well-ventilated area for several days until they are crisp. They should not be subjected to high temperatures because excess heat will destroy their vitamins and drive off the volatile oils that give them their flavour. A low-temperature food dehydrator can be a most useful aid in processing teas. Teas should not be made with wilted or partially dried materials because, in some cases, these can release harmful gases that are either not present in the fresh materials or that are completely dispelled when the plants are thoroughly dried.

To retain maximum flavour and fragrance, store roasted coffees and dried teas in a cool, dry place in airtight containers. If you have prepared more than one kind, be sure to label the containers for your convenience.

Wild coffee substances can be percolated in the same way as regular coffee, or infused in boiling water for five to ten minutes in a teapot. Generally, you will find that you need to allow slightly more coffee substitute per cup than you would for regular coffee, and you may have to percolate or infuse the beverage for slightly longer. You will need to use a tea strainer when pouring the infused coffee. If the material is very finely ground, you can add it directly to the cup with hot water as an "instant coffee", but you should stir it well, as some sediment is bound to collect at the bottom.

Most wild tea substitutes should be prepared in the same way as ordinary tea. Be sure to use fully boiling water. Warm the teapot first, then add your tea material—leaves, bark, or fruits—in the appropriate quantities, fill the pot with boiling water, cover, and allow to steep for five to ten minutes. As with wild coffee substitutes, you may need to let the wild teas steep longer than ordinary tea to obtain a full flavour.

Decide yourself whether you want to add milk or cream, lemon juice, or sweeteners such as sugar or honey. We have found that the natural sweeteners—honey, molasses, and especially maple syrup—are best in most of these wild beverages.

Many of the wild coffee and tea substitutes mentioned here can be improved by blending them with each other or with spices and flavourings such as orange peel, cinnamon, cloves, and anise. Try some of our suggestions for blending and then invent some blends of your own. You can also use the coffee substitutes to stretch your regular coffee supplies, and you can mix some of your wild teas with regular tea. By these means you can reduce your caffeine intake, save money, and treat your tastebuds to some new exotic flavours, all at the same time.

A Necessary Caution

Anyone who wishes to harvest and use wild plants as foods and beverages must take every precaution to ensure that the species is correctly identified and that only those parts of the plants recommended for consumption are used. In most cases, mistaken identification or failure to follow instructions would only result in an unsuccessful meal or beverage, but sometimes it could be far more serious, leading to illness or death. There are enough highly toxic plants in Canada to make picking one by mistake a significant possibility. Furthermore, even among our common foods, certain parts of some plants, such as rhubarb, tomato, and potato, can be highly poisonous. We are very grateful to Dr. T. Kuiper-Goodman, Toxicological Evaluation Division, Department of Health and Welfare, Ottawa, who reviewed the toxicity of the various plant species discussed in this book, as she so generously did for the first volume in the series, *Edible Garden Weeds of Canada*.

You should also guard against picking plants that may be contaminated with insecticides, herbicides, chemical fertilizers, or other pollutants. For example, do not collect chicory or dandelion roots from lawns, unless you are sure that there have been no weed-killers or fertilizers applied. Road, railway, and powerline rights-of-way and the margins of cultivated fields should be avoided unless you are completely familiar with their histories.

It is important to be aware of some of the potential risks of consuming herbal teas or coffees. Most of the herbs contain a variety of active compounds that may have adverse effects if taken in excess. There is still not enough knowledge about many herbs to ensure the absolute safety of eating them in any quantity. A wise precaution would be to use a variety of plants rather than sticking to one particular species.

Please use the utmost discretion when gathering plants as foods and beverages. Some of the weedier species covered in this book—dandelion, clover, stinging nettle, or fireweed—are so abundant that one need not hesitate to pick them. However, species such as sassafras and sweet birch should be treated with the greatest respect. Peeling off the bark or even breaking off the small twigs can harm the tree. These species are so rare in Canada and of such limited distribution that they should be sampled very sparingly. Most of the other species mentioned here are common enough within the areas of their distribution that they can be collected in moderation without jeopardizing their populations.

Format

This book includes both cone-bearing plants (Gymnosperms) and flowering plants (Angiosperms). The Gymnosperms, including various members of the cypress and pine families, are presented first. They are followed by the Angiosperms, which are arranged in alphabetical order by scientific family name within the two major divisions of flowering plants, the Monocotyledons and Dicotyledons. The only Monocotyledonous plants included in this book are the wild grains, members of the grass family (Poaceae or Gramineae). In the Dicotyledon section, if there is more than one species described within a family, they are listed in alphabetical order of the plants' scientific names (genus and species).

The scientific names are included for your convenience, to ensure that there is no doubt about the particular species being discussed. Because some plants or groups of plants may have two, three, or more different colloquial or common names in various parts of the country, and because the same common name may be applied by different people to entirely different plant species, scientific names are both useful and necessary in distinguishing the exact identity of a plant. Scientific names are also necessary when two or more languages are involved; they are standardized the world over and are thus recognized by speakers of any language.

For each species the most commonly applied colloquial names of both the plant and its family are included in the top outer margins. The corresponding scientific names are given at the bottom of the page. When two or more related species can be similarly used, they are treated simultaneously. Alternative or localized common names are listed next, followed by a description of the plant, a summary of its distribution in Canada, and general remarks on its use as a coffee or tea substitute. In many cases, specific recipes are included. Finally, the "More for Your Interest" sections give further details on the history of the plant, its use as food or medicine, and any commercial or industrial applications it might have.

We have tried, where possible, to avoid the use of technical terms or botanical jargon, but sometimes it is necessary to use specialized words that might be unfamiliar. These words are defined in a glossary towards the end of the book.

Wild Coffee and Tea Substitutes

Junipers

(Cypress Family)

How to Recognize

The junipers are aromatic, evergreen, creeping shrubs or shrubby trees with dense, more-or-less-pyramidal crowns up to 10 m high. The reddish-brown bark is thin and shreddy. The needle- or scale-like leaves are pressed closely to the twig, borne opposite one another in overlapping pairs. They may be either sharp or blunt, often with minute glands that look like small dots. The flowers are small, greenish, and inconspicuous. Male and female flowers are produced on separate plants. The berry-like fruits, whose flavour and aroma are familiar to anyone who has tasted gin, are produced in large numbers on the shoots of the female plant. They are the size of small peas and blue to bluish-black, with a whitish waxy coating giving them a grey or silvery hue. The pulp surrounding the large seeds is sweetish and resinously aromatic. The fruits require two to three years to mature completely and can thus be found on the branches all year round. Some fifteen species of juniper are to be found in North America, of which four are native to Canada. Two of these are low, creeping shrubs, and two are small trees.

Of the shrubs, the dwarf or common juniper (*Juniperus communis* L.) is most common in Canada. The creeping juniper (*J. horizontalis* Moench) is also widely distributed but is not as abundant. The species reaching tree size include Rocky Mountain juniper, also commonly known as western juniper (*J. scopulorum* Sarg.), and eastern or red juniper (*J. virginiana* L.), also known as pencil juniper because the wood was formerly used in the manufacture of pencils. These species closely resemble each other.

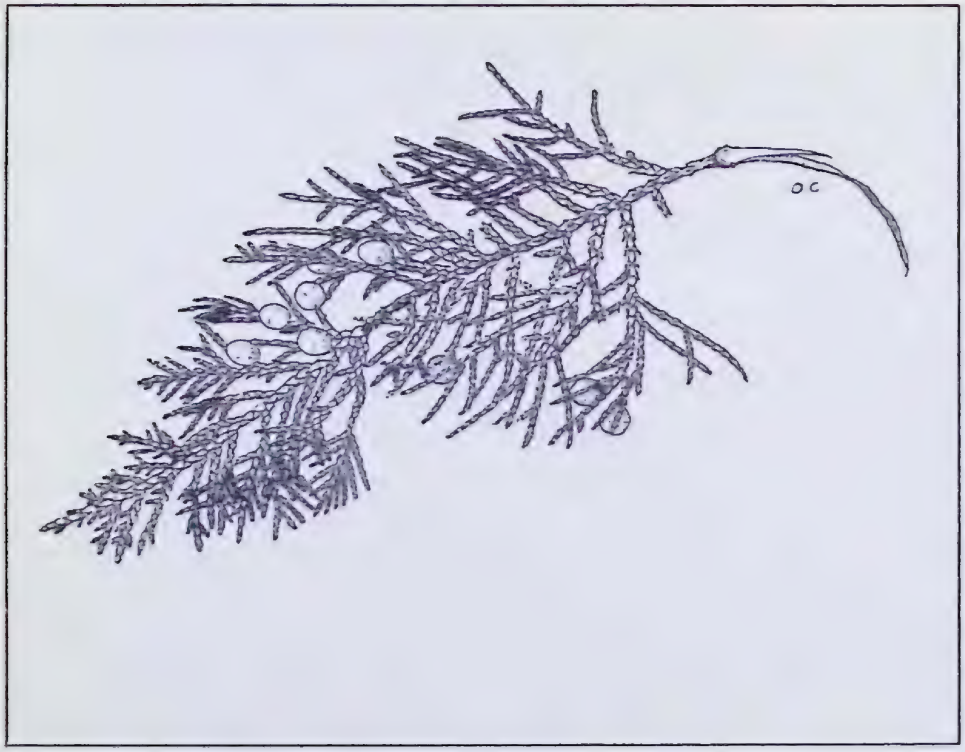
All junipers are very popular ornamentals, planted in many Canadian parks and gardens in a number of horticultural varieties. All can be used as teas and flavourings.

Where to Find

Generally speaking, the junipers are found in dry, open woods and valleys and on dry hills and open rocky slopes, from sea level to subalpine or alpine elevations. Common juniper is distributed from coast to coast, as is the creeping juniper. Rocky Mountain juniper is found in the foothills and mountains of southern Alberta and westward throughout southern British Columbia. The eastern juniper occurs in southern Ontario along the St. Lawrence and Ottawa rivers, westward to Georgian Bay on Lake Huron.

Warning

The foliage of eastern juniper *(Juniperus virginiana)* has been known to cause digestive trouble in livestock when ingested. It is unlikely to cause problems when taken in moderation as a tea, however, and the taste is far too strong for it to be eaten outright.



How to Use

Juniper berries are an essential ingredient in flavouring gin and other cordials, and are also used as a kitchen spice for beef and game. The slightly bittersweet fruits are said to stimulate the appetite and digestion. They are also used as a diuretic and laxative. When the berries are burned, a disinfectant gas is produced. Meat smoked with juniper berries acquires a special flavour.

Juniper-Bough Tea: Juniper boughs can be used to make a tea that is quite pleasant if taken in small amounts. Place no more than 10 medium-sized young juniper sprigs (without berries) in 2 L (8 cups) or so of water. Bring to a boil, cover, reduce the heat, and allow to simmer for 15 minutes. Serve hot.

Juniper-Berry Tea: The berries can be used to make another type of tea that is especially good for mild stomach upset or coughs and congestion. Pour 250 ml (1 cup) of boiling water over 5 ml (1 tsp) of dry crushed berries in a teapot and allow the mixture to steep for about 10 minutes. Add honey to taste.

Juniper Coffee: The berries can be roasted and used as a substitute for coffee. The resulting beverage is rather sweetish and resinous but quite pleasant, and contains none of the sleep-retarding ingredients found in coffee.

Collect fully ripe berries in late fall or winter. Dry and store them in a covered container for future use. (They last better if they are stored whole after being dried, rather than if they are roasted, ground and then stored.) Roast the berries at 120°C (250°F) until they are dark brown, grind them to a powder, and pour boiling water over, using 15 ml (1 tbsp) powder per 250 ml (1 cup) of water. Serve hot with a little fresh cream or canned milk. Honey or a dash of cinnamon adds to this drink.

Juniper Mocha

5 ml	roasted, ground juniper berries	1 tsp
5 ml	instant coffee	1 tsp
30 ml	light cream	2 tbsp
250 ml	boiling water	1 cup
30 ml	whipped cream	2 tbsp

In a large mug combine the ground juniper berries, instant coffee and cream. Pour boiling water over the mixture and top with whipped cream. Serves one.

More for Your Interest

In Sweden the ripe berries of the common juniper are made into a conserve, to eat on bread. The English formerly used the berries as a substitute for pepper. In Germany they are used to flavour sauerkraut, and in France they are fermented with barley to make a kind of beer called *genevrette*. The Laplanders and Scandinavians used juniper-berry tea as a tonic.

In North America, juniper was highly valued by Indian peoples as a fumigant, deodorizer, and disinfectant. It was also considered particularly effective for protection against bad spirits, ghosts, and diseases. It was placed in the fire or on a hot stove and burned as an incense, or the boughs were boiled and the tea drunk or used as a wash water for "contaminated" objects, such as the bedding and personal effects of someone who had just died.

Evergreen Trees

(Pine and Cypress Families)

How to Recognize

Everyone is familiar with the dark-green, scale- or needle-bearing Christmas trees of our forests and woodlands. There are many different kinds: firs, spruces, hemlocks, pines, larches, and cedars. It is sometimes difficult to distinguish the different species, but almost all of them can be used to make a fragrant, resinous, vitamin-rich tea. They are treated here as a unit, but in case you would like to differentiate the various types, the kinds most suitable for making tea are listed with general distinguishing features as follows:

Arbor vitae or cedars *(Thuja)*
Small to very large pyramidal trees with opposite scale-like leaves, bark in furrowed, fibrous strips, and small oval-shaped seed cones. Two species in Canada.

Pines *(Pinus)*
Stunted to tall upright trees with thin, medium to long needles in bundles of 2 to 5. The seed cones are cylindrical, elongated to oval-shaped, and woody, with smooth or prickled scales. Nine species in Canada.

Abies grandis

Larches or tamaracks *(Larix)*
Tall, slender trees with thin, soft needles in clusters of 10 to 50. The foliage is deciduous, turning golden-yellow in the fall and soon dropping off. The bark is scaly, and the cones small and oval-shaped. Three species in Canada.

Spruces *(Picea)*
Tall, straight trees with dense, narrow crowns, and branches often extending to the ground. The needles are borne singly on the twigs and are stiff, narrow, four-sided in cross-section, sharply pointed, and mostly under 2.5 cm long. The bark is scaly and the cones cylindrical, with thin, in some cases papery, scales. Five species in Canada.

True firs *(Abies)*
Stately, often spire-shaped trees with narrow, pyramidal crowns. The branches are regular, forming flat sprays. The needles are flat, with pointed, blunt, or notched tips. The bark is thin, smooth, and grey, and the seed cones stand erect on the upper branches. The seeds, scales, and bracts are shed separately from the central axis of the cone. Four species in Canada.

Douglas-fir [*Pseudotsuga menziesii* (Mirb.) Franco]
Moderate to tall trees with long cylindrical trunks and short crowns, often flat-topped at maturity. The needles, soft and sharply pointed, are borne separately and stand out from the sides and top of the twigs. The mature bark is thick and deeply furrowed, and the seed cones are narrowly oval, with prominent three-pointed bracts between the scales. One species in Canada.

Hemlocks *(Tsuga)*
Graceful shade-tolerant trees with dense foliage and horizontal or slightly drooping branches. The needles, flat in cross-section, are short and irregular, giving the branches a lacy appearance. The bark is thin and reddish-brown, and the seed cones are small with rounded scales. Three species in Canada.

For further information on the characteristics of the different coniferous species, the reader is referred to *Native Trees of Canada* by R. C. Hosie.

Where to Find
Coniferous tree species are found throughout Canada and are a major component of our coastal, mountain, and northern forests. For information on the ranges of individual species, see *Native Trees of Canada*.

Warning
Do not use the foliage from yews (*Taxus* species), which are spreading shrubs or small gnarled trees superficially resembling hemlocks, but with flaking, scaly, reddish-brown bark and fruits consisting of a single hard seed encased in a bright pinkish-to-red fleshy cup. Male and female flowers are borne on separate trees. The needles are greenish beneath rather than whitish, as in hemlocks. The foliage, bark, and seeds of yews are toxic to humans and livestock and should *never* be consumed.

Use moderation with any of the evergreen teas suggested here, and do not eat the foliage or use the teas in high concentrations or with great frequency. Some people are known to be allergic to the arbor vitaes, or cedars, which contain thujone, a substance that may cause convulsions. At least one species of pine (*Pinus ponderosa* Dougl. ex Laws.) is known to have poisoned cattle browsing on the needles, causing abortions and stillbirths among pregnant cows, according to J. M. Kingsbury. Although there is no indication that pine tea is harmful to humans, pregnant women should definitely avoid this drink.

How to Use
All of the species mentioned—arbor vitae, pine, larch, spruce, true fir, Douglas-fir, and hemlock—can be used to make tea. Some provide a better quality beverage than others. Our favourites are the true firs—grand fir [*Abies grandis* (Dougl.) Lindl.], subalpine fir [*A. lasiocarpa* (Hook.) Nutt.], amabilis fir [*A. amabilis* (Dougl.) Forb.], and balsam fir [*A. balsamea* (L.) Mill.]. The spruces are also good tea sources, but fir teas are the most fragrant, spicy, and agreeable.

Evergreen Tea: Harvest the twig tips, with needles attached, of the true firs or any of the other coniferous trees mentioned. All but those of larch or tamarack can be gathered throughout the year, although the youngest growth in late spring is probably the best. Place a generous handful of twigs in a warmed teapot, fill the pot with boiling water, and allow to steep as you would regular tea, for about 5 minutes. Serve hot with sugar, honey, molasses, or, ideally, maple syrup. This drink is guaranteed to remind you of Christmas time; it has a spicy pine scent, slightly pungent and resinous.

You can also use these evergreen twigs to flavour regular tea and various other wild tea substitutes. For example, try adding dried blueberries or dried raspberries to the evergreens. Or, to make a spicy tea, add several cloves and a sprinkling of cinnamon, nutmeg, and grated orange peel to each cup of evergreen tea.

More for Your Interest

The value of evergreen tea as an anti-scorbutic (providing vitamin C) has long been known to the Indian peoples of North America. European explorers and pioneers soon learned to use this valuable beverage to prevent scurvy. In fact, tea made from the eastern white cedar (*Thuja occidentalis* L.) is credited with having saved the entire overwintering expedition of Jacques Cartier in 1535. Cartier was ice-bound in the St. Lawrence River near the present-day site of Montreal. He had already lost twenty-five of his men to scurvy, a disease directly associated with a deficiency of vitamin C. The other crew members were in very poor health and in danger of succumbing before the winter was over. Cartier asked some Indians passing on the ice near his ship if they knew how to treat the disease. The chief of the group sent two women to fetch ten or twelve branches of a tree later identified as eastern white cedar, found from Nova Scotia to southern Manitoba. He showed Cartier's men how to prepare the tea by boiling the bark and foliage together. This decoction was drunk every other day and the dregs were put on the sores of those afflicted. This remedy worked so well that the men began to fight over who should be the first to take it. In Cartier's words:

> . . . in six days a whole tree as large and tall as any oak in France was used up. And in those six days it worked more wonders than all the physicians of Louvain and Montpellier using all the drugs in Alexandria could have done in a year. For that tree did us so much good that all those who consented to use it were cured and recovered their health, thanks be to God. (Cartier 1953, p. 102)

Cartier named this miracle tree *Arbre de vie* (arbor vitae), meaning "tree of life", a name that is used to this day. The identity of the tree involved is substantiated in an article by Mary I. Moore, "Early History of Eastern White Pine and Eastern White Cedar. . . ."

Another famous evergreen antiscorbutic, used by Captain James Cook over two centuries later, was spruce beer. This was rationed to Cook's crews every other day and was considered the chief means of keeping the men free from scurvy throughout their long ocean voyages.

Wild Grains

(Grass Family)

Almost all grasses produce edible grains that can be roasted in the same way as the cultivated cereals—barley, rye, oats, corn, and wheat—to make a good coffee substitute. Since most wild grains are small and difficult to harvest in any quantity, making wild-grain coffee from them is a rather laborious process. However, when it is properly prepared, grain coffee can be delicious and very satisfying. There are several wild grasses that can be used to make coffee. In some places you will find populations of wheat (*Triticum aestivum* L.), oats (*Avena sativa* L.), or barley (*Hordeum vulgare* L.) that have escaped from cultivation and can be harvested in sufficient quantities to make coffee. In addition to these domesticated types, a number of common weedy grasses can be gathered in fairly substantial quantities. These include wild barley or fox-tail grass (*Hordeum jubatum* L.), green fox-tail or wild millet [*Setaria viridis* (L.) Beauv.], downy brome (*Bromus tectorum* L.), wild oats (*Avena fatua* L.), and barnyard grass [*Echinochloa crus-galli* (L.) Beauv.]. There are many others, both native and introduced, that can be used, but since the general procedures for harvesting and preparing the grains are more or less the same for all of them, we have chosen barnyard grass as an example, and suggest that you use the same directions to make any of the wild-grain coffees.

Echinochloa crusgalli

***Echinochloa crusgalli* (L.) Beauv. and other grass species**
(Poaceae or Gramineae)

How to Recognize
Barnyard grass is a coarse annual with ribbon-like leaves and erect stems up to 1 m or more high. The flowers and fruits are borne in dense, drooping, finger-like clusters at the ends of the stems. When the fruits are mature, the husks are easily removed to reveal the brownish or yellowish shiny grains, each about 2 mm long.

Where to Find
This species is widespread and common throughout North America. It prefers moist, rich soils such as those along ditches and river banks, and is most abundant around barnyards and well-manured ground. Left untended, it will quickly take over gardens, cultivated fields, and pastures.

Warning
Great care should be taken to avoid gathering grains infected with an extremely poisonous fungus known as ergot (*Claviceps* species), which appears in place of the regular grain as a small, hard, black kernel. Ergot can also contaminate cultivated cereals, and in the past has caused loss of life in both humans and livestock.

How to Use
Barnyard grass is particularly suitable as a coffee substitute because it is plentiful and easy to harvest.

Barnyard Grass Coffee: The grains should be collected promptly just as they mature, since they quickly become overripe and fall to the ground. It is best to break off the entire fruiting heads when they start to turn brown, allow them to dry thoroughly in a cloth or paper bag, and then extract the grains by rubbing the heads between the fingers or beating them against a screen or tray. The chaff can be separated by winnowing the grains lightly on a windy day or in front of a fan; the light straw-like material will simply blow away. The cleaned grain should be roasted in a slow oven at about 120°C (250°F) until dark brown. It can then be stored in a closed container and ground and used as needed. If you grind the grain to a fine powder you can simply add it to hot water in a cup as you would instant coffee, or if it is more coarsely ground you can infuse it or percolate it as you would regular coffee. Experiment with the quantity until it is to your taste; start with about 5 ml (1 tsp) per cup and increase the amount as required.

Wild-grain coffee can be sweetened with sugar, honey, or molasses and taken with milk or cream if desired. Different kinds of grains can be mixed together, and all can be blended very effectively with regular coffee.

More for Your Interest

Barnyard grass and other wild grains can be substituted for any of the cultivated grains to make flour for baking and for thickening soups and sauces. Wild grains can also be used whole in cereals, breads, and muffins. When baking with the whole grains, however, be sure to soak them overnight first, otherwise they will be too hard.

The wild grains eaten by many Indian peoples in North America include corn (*Zea mays* L.), which was cultivated in prehistoric times by the early native Americans from Peru to Canada, and wild rice or Indian rice (*Zizania aquatica* L.), which is still harvested as a specialty crop by native peoples in Manitoba and the Great Lakes region.

Balsamroot

(Aster or Composite Family)

Other Names
Spring sunflower, "wild sunflower".

How to Recognize
This beautiful perennial herb, up to half a metre high, grows from a thick, rough, deep-seated taproot. The leaves are clustered, long-stemmed, numerous, large, and arrow-head shaped or triangular. A thick covering of fine white hairs gives the leaves a grey or silvery cast. The bright-yellow flowering heads, usually many on each plant, are borne on individual stems, and resemble small sunflowers, with 15 to 25 petal-like ray flowers per head. The fruits, which easily shake loose from the old dry flowering heads, are like miniature sunflower seeds. Blooming time is from April to June. Livestock find the mature leaves and flowers unpalatable, and the plants therefore proliferate on heavily grazed land. In some areas of the British Columbia interior, the flowers cover entire hillsides with a carpet of gold. It would be hard to find a more striking flower to herald the spring.

A second species, *B. deltoidea* Nutt., is similar in appearance to the more common *B. sagittata*, but the leaves are a brighter green. It can be used in a similar manner.

Where to Find
Balsamorhiza sagittata is found on dry, open hillsides and flatlands from the southern interior of British Columbia to the foothills of Alberta, whereas *B. deltoidea* is restricted to rocky outcrops on the extreme southern coast of British Columbia.

How to Use
The sweet, resinous taproots should be dug in early spring before they become tough. They can be roasted and ground to a powder to make a pleasant and wholesome substitute for coffee. Try our basic balsamroot coffee and then experiment with some new and different combinations.

Balsamroot Coffee: Dig 1 or 2 of the large fleshy roots in spring, just as the new shoots are appearing above the ground. Pound the outside of the roots with a rock or hammer, using sharp, quick strokes. Soon the rough outer "bark" will loosen and can be peeled away, leaving a white inner core. Cut the central part into short segments and roast them for 1 to 2 hours in an oven at about 150°C (300°F) until they are dark brown and crisp. Watch carefully that they do not burn. Grind to a powder in a blender or coffee grinder. Using about 15 ml (1 tbsp) powder per 250 ml (1 cup) water, brew the coffee in your usual way and serve black or white with cream and sugar or honey.

Balsamroot Coffee Milkshake

30 ml	balsamroot coffee powder	2 tbsp
125 ml	light cream	½ cup
	2 scoops coffee ice cream	
	rum or brandy to taste	

Combine balsamroot powder and cream in a blender until the powder is thoroughly mixed. Add the ice cream and blend until smooth and creamy. A splash of rum or brandy added could make a nice dessert on a hot, sunny day. Serves one.

Balsam-Colada

15 ml	balsamroot coffee powder	1 tbsp
5 ml	cocoa or instant chocolate	1 tsp
	dash of cinnamon	
250 ml	boiling water	1 cup
30 ml	whipped cream (optional)	2 tbsp
5 ml	white rum (optional)	1 tsp

Mix dry ingredients together and pour the boiling water over, stir and serve hot. Add rum if you like, and top with a float of whipped cream. Serves one.

More for Your Interest

This versatile plant was an important food to the Interior Salish Indian peoples of southern British Columbia. The roots were dug in early spring, cooked overnight in large steaming pits, and eaten as a vegetable or dessert. The young whitish shoots were sought just as they appeared above the ground, and were eaten raw. Later the succulent stems of the flower buds were peeled and eaten, much as one would eat celery today. They have the same pleasant nutty flavour of fresh green sunflower seeds. In mid summer the small hard seeds were gathered in large quantities, pounded to a meal in buckskin bags, and eaten alone, cooked in soups and stews, or mixed with berries and other foods as a dessert. The mature leaves and flower heads are inedible, however, with a strong flavour and smell of turpentine.

Chicory

(Aster or Composite Family)

Other Names
Blue sailors, wild succory, blue daisy, coffee-weed, wild endive.

How to Recognize
Chicory is a tall perennial plant, often over 1 m high, with a stiff, upright, loosely-branching, hollow stem and a deep, long, fleshy taproot. The alternate rough-hairy leaves resemble those of dandelion, both in appearance and taste. Those at the base and lower stem are narrow and deeply lobed. Upper stem leaves are smaller, toothed or smooth-edged, clasping to the stem, decreasing in size upwards, and becoming bract-like on the flowering part of the stem. The flowers are borne 1 to 3 together in the axils of the upper bract-like leaves. They are large and showy, resembling daisies but without the yellow centre. Their bright sky-blue colour makes identification unmistakable. They close at night and usually in the bright afternoon sunlight. The seeds are rather small, irregularly angular, grooved and ridged lengthwise, and light brown in colour. Flowering time is from June to September.

***Cichorium intybus* L.**
(Asteraceae or Compositae)

Where to Find
Native to Europe and Asia, chicory is now widely distributed and is considered a cosmopolitan weed. In Canada it is most common from the Maritimes west to the Prairies, and on the Pacific coast west of the Cascade Mountains. It grows in dry soil along roadsides and in fields and waste places, as well as in old gardens and orchards.

How to Use
The root is extensively used in Europe as a coffee substitute, flavourer, and coffee stretcher. It blends well with coffee beans and extends the supply of this increasingly expensive commodity. The presence of chicory will give the brew a deeper colour and a more lasting flavour and aroma. Chicory can also be blended effectively with grains and other coffee substitutes.

Chicory Coffee: In July or August, dig a few long roots of chicory plants. Clean, wash, and scrub them with a brush. Cut them into short segments of 1 to 2 cm. Spread the pieces on a cookie sheet and roast in a slow oven at about 120°C (250°F) until they are brown in colour and brittle-dry. Watch carefully to make sure they do not burn. Grind or powder the pieces in a blender or with a mortar and pestle, and store in a closed container in a cool place.

Use chicory alone or mix with coffee, substituting about 15 ml (1 tbsp) chicory for 30 ml (2 tbsp) ground coffee. Experiment with the proportion; some will prefer more and others less chicory in their coffee. To bring out the flavour, serve the coffee with hot cream (European style) or spice it with a stick of cinnamon or one cardamom seed in each cup. (Cardamom, *Elettaria cardamomum* Maton, is a plant native to India and Sri Lanka. The seed has a strong aromatic odour and is used in spices and curries.) Chicory also makes a pleasant blend with south American maté tea (made from the leaves of *Ilex paraguensis* A. St. Hil.).

Chicory is sold in health-food stores and other specialty shops, in pure form or mixed with maté and other beverage materials.

More for Your Interest
Chicory leaves are widely known as a potherb and salad green, both in unaltered and blanched form. The blanched type is known under the name of *witloof* or *French endive* (true endive is a closely related plant). The basal leaves, blanched in early spring as the result of being covered during their growing period, make a good salad ingredient. The green leaves are bitter and should be boiled in a few changes of water, then prepared in the same manner as spinach.

You can make your own winter chicory garden as follows: dig several chicory roots late in the fall and plant them in a deep wooden box using sandy soil or just sand.

Make sure that their crowns are just showing on the surface. Cover with a layer of damp sawdust or peat and keep in a dark, cool place such as a cellar or heated garage with a temperature of about 12°C. Water from time to time. The young crisp sprouts will make an appearance above the sawdust four to six weeks from the time of planting, and can be harvested in two or three successive crops.

The bright-blue flowers of the chicory can be made into a tea, said to promote a healthy complexion in young women. Long ago, so the story goes, Chicory was a young girl who was courted by the sun. She spurned his attentions and finally the sun changed her into the chicory flower, decreeing that her face would follow him wherever he went in the sky. You will notice that on a bright day all the chicory flowers are facing in the same direction—towards the sun.

Jerusalem Artichoke

(Aster or Composite Family)

How to Recognize

This plant is a tall perennial, closely related to the garden sunflower. The underground stems (rhizomes) bear many stout knobby tubers of all shapes and sizes. These tubers are the edible portion of the plant, and are considered a delicacy by many. The stems, usually found in clusters, are rough to the touch, are covered with spreading hairs, and grow up to 5 m high. The leaves, which grow all along the stem, are oval to oblong-shaped, rough above, toothed and sharply pointed, and reach up to 25 cm in length. The numerous yellow flower heads resemble small sunflowers and are borne towards the top of the plant. Unlike the fruits of the sunflower, the seeds of this plant are small and inedible.

Where to Find

Jerusalem artichoke is native to the central United States and Canada. The tubers were popular with Indian peoples before the days of Columbus, and were introduced to Europe after his voyages to America, becoming a popular vegetable in Spain and the Mediterranean. In many places in America, the Jerusalem artichoke has become a widespread weed in oil fields, waste places, roadsides, and abandoned gardens. When planted it will multiply very fast, reappearing year after year. New plants will sprout from any pieces of tuber left in the ground from the previous year.

How to Use

Once widely used, Jerusalem artichoke lost its popularity as a vegetable on this continent, but is gradually regaining respect as a nutritious vegetable that can be substituted in many recipes for staple vegetables such as the potato. It is important to realize that, instead of starch, Jerusalem artichokes contain a complex sugar known as inulin, which breaks down more slowly than starch during digestion, making the tubers a valuable food for diabetics and others requiring a low-starch diet. They can be used raw in salads, cooked in a very simple way as you would potatoes, or used in more elaborate dishes. They can even be pickled in cider vinegar.

Jerusalem artichokes are also suitable as a coffee substitute or coffee stretcher. Although a bit sweetish, the drink is pleasant and palatable. Recipes follow for Jerusalem Artichoke Coffee and variations. Try different blends with other ingredients, such as chicory, real coffee, or chocolate.

Jerusalem Artichoke Coffee: Dig the tubers late in the fall or even during the winter when the tops have died down. They are best when newly dug as they do not store well. Scrub them with a brush, making sure that no soil is left in the cracks, and cut them into thin slices. There is no need to peel them. One medium-sized tuber yields enough for about 1 L (4 cups) of coffee. Roast the pieces in an oven at about 120° to 150°C (250° to 300°F) for 1 to 2 hours, or until they break crisply between the fingers and become dark brown (but not black) inside. Grind in a coffee grinder or blender and store in a closed container. Make the artichoke coffee in a pot as you would tea, or in a percolator, the way you would coffee. Use 10 to 15 ml (1/2 to 1 tbsp) of powder for 250 ml (1 cup) water. Serve black or with cream, milk, sugar, or honey. If you use the open-pot method, you may wish to strain the coffee when serving to remove any larger particles.

Mixed Arti-Coffee

10 ml	roasted Jerusalem artichoke powder	2 tsp
10 ml	ground real coffee	2 tsp
250 ml	water	1 cup
	hot cream and honey to taste (optional)	
	brandy (optional)	

Place the Jerusalem artichoke powder and real coffee in a percolator and perk as you would regular coffee. Serve with hot cream and honey if you wish. A splash of brandy is a good addition when served after dinner or in cold weather.

Arti-Health Coffee

10 ml	finely-ground roasted Jerusalem artichoke powder	2 tsp
15 ml	instant milk powder	1 tbsp
10 ml	powdered barley malt	2 tsp
250 ml	hot milk	1 cup

Stir the first three ingredients into the milk and serve piping hot. You may wish to strain the mixture to remove any larger artichoke bits, otherwise just let them settle to the bottom. This is a nutritious drink for those recovering from colds or other illnesses.

More for Your Interest

In our recent book *Edible Garden Weeds of Canada*, you will find a number of recipes on how to use Jerusalem artichoke as a food. The simplest preparation is to steam them in a little water until they are soft but not mushy and serve with salt and butter. Jerusalem artichokes are very easy to grow, need almost no care, and always seem to yield a bountiful crop. If you are faced with an overabundance, just eat what you can and roast the rest for Jerusalem artichoke coffee.

There is no connection between Jerusalem artichoke and Jerusalem. The adjective is really a corruption of the Italian word *girasole*, meaning "sunflower". The plant is only distantly related to the true artichoke, whose edible portion is its large thistle-like flower head. Perhaps to some the taste is similar.

Common Dandelion

(Aster or Composite Family)

Other Names
Blowball, lion's tooth, yellow gowan, priest's crown, wet-a-bed, *pissenlit*.

How to Recognize
Dandelion is known the world over by children, who use the downy seedheads as playthings, and by adults, who spend many hours in an everlasting battle against this plant in their gardens. The common name, *dandelion*, originates from the French name *dent-de-lion*, literally "lion's tooth", so called because of the coarsely-toothed leaves.

Dandelion is a perennial herb with a long, thick, brown-skinned taproot, a basal rosette of bright-green, elongated, sharply-lobed leaves, and several to many long-stalked golden-yellow flower heads. (A characteristic of the family is the grouping of small simple flowers into dense composite heads.) The hollow stems of dandelion, when broken, discharge a creamy-white milky juice, or latex.

Do not confuse the common dandelion with the taller, coarser, hairy cat's-ear or spotted cat's-ear dandelion (*Hypochaeris radicata* L.). This plant closely resembles dandelion in form and flower colour, but the stems are thinner and more wiry, taller and usually branched, and the leaves are hairy and very bitter in taste, making them inedible.

Where to Find
Dandelion is a common weed of field, meadow, roadside, and garden. Often it is one of the most plentiful plants on your own or your neighbour's lawn. A native of Europe, it is now widespread in North America and over most of the world. Its favourite habitats are moist grassy places, recently disturbed sites, and neglected lawns. It grows from sea level to subalpine elevations.

How to Use
Dandelion is best known as a potherb and salad green, but many people are also aware that the long fleshy taproots make a "dandy" coffee substitute when properly prepared.

Dandelion Coffee: Collect the roots in fall or early spring. After washing them thoroughly without removing their brown skin, cut them into small pieces and roast them slowly in the oven at about 120°C (250°F) until crisp and dark brown like coffee. Grind the pieces up in a coffee grinder, blender, or with mortar and pestle, and store tightly covered in a cool place. Use either on its own or mixed with regular coffee. Experiment with dandelion coffee to find the quantity that suits you best. We find that 15 ml (1 level tbsp) per 250 ml (1 cup) of water is the best proportion.

In making the coffee you can use the perk method, or simply pour boiling water over the required mixture in an open pot.

Dandelion coffee can be served black or with milk, cream, sugar, or honey. The addition of brandy will make a good Spanish-style coffee.

Dandelion Tea: A nutritious, if slightly bitter, tea can be made from dandelion by infusing about 30 ml (2 tbsp) of fresh leaves, flowers, or flower buds in 500 ml (1 pint) of boiling water. This tea is usually taken as a medicine and tonic, but can easily serve a dual role of thirst quencher and healer. It is said to act as a mild diuretic and laxative, to sooth rheumatic pains, and to help one keep slim. In addition, it contains a number of essential minerals, including calcium, iron, magnesium, potassium, and silicon.

Dandy-Coffee, Vienna Style

10 ml	powdered dandelion roots	2 tsp
30 ml	white rum	2 tbsp
250 ml	boiling water	1 cup
30 ml	whipped cream	2 tbsp
	hot cream (optional)	

In a large mug combine the dandelion powder and rum. Pour the boiling water over the mixture and serve plain or with hot cream. Top with whipped cream. Serves one.

***Café* Curaçao**

10 ml	powdered dandelion roots	2 tsp
30 ml	curaçao	2 tbsp
250 ml	boiling water	1 cup
30 ml	whipped cream	2 tbsp
	grated orange peel to taste	

In a large mug combine the dandelion powder and curaçao. Pour boiling water over the mixture, stir, and serve topped with whipped cream and grated orange peel. Serves one. (Curaçao liqueur is named after the island where the small sweet oranges grow that are used to flavour this liqueur.)

Dandy-*Czekolada*, Polish Style

10 ml	powdered dandelion roots	2 tsp
10 ml	instant chocolate	2 tsp
250 ml	light cream	1 cup
	2 scoops coffee ice cream	
30 ml	whipped cream	2 tbsp
	crème de cacao to taste	

In a blender combine the dandelion powder, instant chocolate, light cream, and ice cream. Blend until smooth and creamy. Top with a float of whipped cream, splash with crème de cacao, and serve in a milkshake glass during hot summer days. Serves one. (*Czekolada* is a Polish word for chocolate.)

Dandelion Punch

4 L	hot dandelion coffee	4 qts
1 L	vanilla ice cream	1 qt
125 ml	Jamaican rum	1/2 cup
	bowl with ice	

Mix the above ingredients and let stand in the bowl for 1 to 2 hours, stirring frequently. Then serve. If the punch is too strong, light cream can be added to dilute it. If it is too weak, add more rum or brandy. Serves 16–20.

More for Your Interest

The dandelion is one of the most versatile edible plants, wild or cultivated. The roots are good not only as a coffee substitute but as a cooked vegetable. The leaves make a tasty potherb or salad green, and the flowers are well known as an ingredient for wine. You will find further dandelion recipes in our book *Edible Garden Weeds of Canada*.

Sweet Birch and Yellow Birch

(Birch Family)

Other Names
Sweet birch is also known as black birch or cherry birch.

How to Recognize
Sweet birch is a medium-sized tree, usually under 20 m high and half a metre in diameter. On poor sites it tends to be stunted and shrub-like. The branches are numerous and spreading, with drooping tips. The bark on the young stems is smooth, shiny, and dark reddish-brown; on old trunks it is almost black, and roughly fractured into large, irregular plates. The leaves are oval or heart-shaped, alternate, and simple, with finely-toothed edges and sharply-pointed tips. The flowers are borne in catkins, male and female being separate but on the same twig. The male, or pollen, catkins are long, drooping, and clustered. The female, or seed-bearing, catkins are stout, upright, and solitary. Later they ripen into brown, papery cones with three-lobed scales and winged heart-shaped fruits, which are shed late in the fall.

Sweet birch is frequently confused with the similar yellow birch *(B. alleghaniensis)*, but can be distinguished by the smooth scales on the fruits as against the hairy scales on yellow-birch fruit. When mature, yellow birch is much larger than sweet birch, occasionally growing up to 30 m tall. The twigs of both species, when broken or scraped, have a pronounced wintergreen odour and taste.

Where to Find
The range of sweet birch in Canada is extremely limited. Authentic collections have been made in only southeastern Ontario west of Port Dalhousie. In the United States it grows east to Maine, west to Iowa, and southwards to Tennessee. It prefers deep, rich soils, and always grows scattered among other hardwood trees. Yellow birch is much more common, being a typical component of the hardwood forests from Nova Scotia to central Ontario and extending into the boreal forest region in eastern Canada.

Warning
Methyl salicylate, or oil of wintergreen (see below), when taken in excess can be toxic, especially to children. It can cause nausea, vomiting, acidosis, pulmonary edema, pneumonia, convulsions, and death. Doses of 4 to 10 ml in children and 30 ml in adults can be fatal. It is related to aspirin but more toxic. Of course, the small concentration to be found in birch tea is harmless, but children who are hypersensitive to aspirin should not drink the tea or even touch the plants.

How to Use

By some unexplained coincidence of nature the bark and twigs of the sweet and yellow birches contain an aromatic oil, methyl salicylate, virtually identical to that produced by the small, shrubby wintergreen plant *(Gaultheria procumbens)*, which is also discussed in this book (see page 52). The compounds are the same except for a minute difference in molecular structure, and are impossible to differentiate without the most sophisticated chemical procedures. In fact, the wintergreen flavouring, so commonly used in candies, chewing gums, toothpastes, and medications, when not artificially produced as is now usual, is more often derived from sweet birch than from the real wintergreen plant.

Birch Tea: The twigs of sweet and yellow birch can be used to make tea in the same manner as for wintergreen leaves. Simply break them into small pieces, place a generous handful in a warmed teapot, cover with boiling water, and allow to steep about 15 minutes. If you wish to dry the twigs for later use, do so at room temperature; if heat is used, much of the wintergreen essence will be driven off. To obtain a stronger wintergreen flavour, follow the procedure recommended for the real wintergreen: pour boiling water over a large quantity of twigs or shredded bark and allow the mixture to stand in a covered container for several days. Then strain it, reheat, and serve with honey or maple syrup. This tea is excellent when combined with orange or lemon peel, wild blueberries, or rose hips.

Because the tea is derived from the bark and twigs it is available throughout the year. However, those wishing to sample it are cautioned to harvest the twigs carefully and with discretion, so as not to cause undue destruction to these beautiful trees. Do not strip off the bark from the trunk as this disfigures the tree for life, and can actually kill it if the trunk is girdled.

More for Your Interest

The sap of the sweet and yellow birches and other birch species is mild and sweet, and can be harvested like sugar-maple sap and rendered into a pleasant syrup. You can drink the sap straight, or use it instead of water to make your birch wintergreen tea (but see Warning above). Euell Gibbons in his classic wild-food guide, *Stalking the Wild Asparagus*, gives explicit instructions on collecting birch syrup and also provides a good recipe for birch beer, which he claims has a kick like a mule.

The wood of the sweet and yellow birches is heavy, hard, strong, and straight-grained. It is used in flooring, furniture, plywood, veneer, railway ties, and in the hardwood distillation industry. In Canada, yellow birch far exceeds sweet birch in importance because it is so much more abundant.

Kinnikinnick

(Heather Family)

Other Names
Bearberry, sandberry, mealberry, bog-cranberry, upland-cranberry.

How to Recognize
Kinnikinnick is a creeping to semi-erect evergreen shrub with long, flexible, rooting branches, covered with papery, shredding bark. The leaves, up to 25 ml long, are tough, oblong, round-tipped, and tapering at the base, dark green above and paler beneath. The flowers are small, pinkish to almost white, urn-shaped, and arranged in small clusters. The fruit is a bright-red edible berry about the size of a large pea, with whitish, mealy, rather tasteless pulp, and large seeds.

Where to Find
This low shrub is common across Canada in a variety of habitats, from sea level to high elevations, on dry slopes, rocky or sandy soils in exposed places, and in dry woods. In some locations it is so prevalent that it covers the ground in carpet-like mats.

***Arctostaphylos uva-ursi* (L.) Spreng.**
(Ericaceae)

How to Use

The green, leathery leaves can be used to make a rather pleasantly bitter, astringent tea, which is popular in many parts of the world as a health tea or tonic, good for stomach and urinary disorders. In Russia, this tea is especially well known and is called *kutai*, or "Caucasian tea".

Kinnikinnick Tea: Use 5 ml (1 tsp) of dried kinnikinnick leaves per 250 ml (1 cup) of boiling water, and allow to infuse for about 5 minutes. The addition of a few drops of lemon juice makes a rather pleasant drink. Prospectors and trappers recommend soaking the leaves in whisky first and then using them in the normal way to make tea. What a welcome drink in the cold wintery weather of our northern country!

Kinnikinnick berries, fresh or dried, can be used along with the leaves to make tea, and both leaves and berries can be mixed with other tea substitutes to enhance the flavour.

More for Your Interest

The chief medicinal principle of kinnikinnick tea is a glycoside known as *arbutin*, found in many members of the heather family. The leaves are grown commercially in Spain and to a lesser extent in Canada and the United States for use in medicine as a diuretic and astringent. The medicine is marketed under the name of Uva Ursi or Bearberry. Kinnikinnick has long been used by European and North American Indian herbalists for relieving kidney and bladder problems and in the treatment of numerous other ailments.

The term *kinnikinnick* is said to be derived from an Algonkian Indian word meaning "smoking mixture". Originally it was applied to any smoking preparation containing such substances as native tobacco, hemlock gum, sumac bark, red-osier dogwood bark, kinnikinnick leaves, or other plant products. Gradually the name came to be applied specifically to this particular plant, one of the most popular of all native tobaccos. Kinnikinnick is still smoked by some Indian peoples. The leaves are harvested at any time of the year, roasted beside a fire or over a stove until crisp and brown, then pulverized and smoked alone in a pipe or mixed with real tobacco. Some people who have tried it have found its effects very mild, but others say it can make one sleepy and dizzy if too much smoke is inhaled.

The bright-red fruits of the kinnikinnick are dry and mealy and rather tasteless when eaten raw, but if cooked in a stew or fried in grease or butter are quite palatable. They are also good mixed with other berries, such as blueberries or cranberries. They are very important as an emergency food mainly because they stay on the branches throughout the winter, and can be obtained when few other foods are available.

Wintergreen

(Heather Family)

Other Names
Checkerberry, teaberry, "ivry"-leaves, *thé des bois, Gaulthérie couchée*.

How to Recognize
This is a low, creeping evergreen shrub. The stems seldom exceed 15 cm in height, and the small oval leaves, finely-toothed at the margins, tend to be clustered at the ends of the sprigs. The leaves are often tinged with red or purple. In the spring they are quite tender and soft; later they become tough and leathery. The flowers are small, white, and urn-shaped, borne in small clusters on the undersides of the stems. Later, bright-red globular edible berries appear. These remain on the twigs throughout the winter. The leaves and fruit have a pleasant aromatic fragrance and taste, familiar to almost everyone as the wintergreen flavour in candies, chewing gum, and cough-drops.

Where to Find
Wintergreen is a common ground-cover in the coniferous woodlands and mixed forests of eastern North America. In Canada it occurs in Newfoundland and eastern Quebec, and from Nova Scotia to southern Ontario.

Warning
Oil of wintergreen, if taken in excess, can be quite toxic, especially to children. It can cause nausea, vomiting, acidosis, pulmonary edema, pneumonia, convulsions, and even death. Doses of 4 to 10 ml in children and 30 ml in adults can be fatal. There is no danger of poisoning from the small quantities present in wintergreen tea or in a few wintergreen berries, but children, especially those hypersensitive to aspirin (a related drug), should not eat the plant or berries, or even touch the plant.

How to Use
Both the leaves and berries make a fragrant, refreshing tea. This beverage was enthusiastically promoted in the mid-eighteenth century by Dr. Jean-François Gaulthier, sometimes spelled Gauthier, (1708–1756), botanist and royal physician in Quebec. His good friend Pehr Kalm, a famous Swedish explorer, introduced the plant to Linnaeus, who dedicated the genus to Gaulthier.

Wintergreen Tea: Steep about 75 ml (1/3 cup) of finely crushed wintergreen leaves (with the berries if desired) in 1 L (4 cups) of boiling water for about 5 minutes. Dried leaves can also be used when fresh ones are not available. To dry them, spread them out on a cookie sheet and leave overnight in a slow oven at about 100°C (200°F).

Wintergreen tea is pleasant enough, but decidedly weak in flavour and colour. You can add honey and milk, but these tend to

***Gaultheria procumbens* L.**
(Ericaceae)

completely overpower the delicate flavour. Euell Gibbons described his experiences with wintergreen tea in his book, *Stalking the Healthful Herbs*. He finally discovered a method for making a strong, full-bodied wintergreen tea. He poured boiling water over a large quantity of fresh leaves and allowed them to stand in a covered container for several days, until the leaves started to ferment and bubble. Then he strained and reheated this liquid, now a clear pink colour, and found it to contain a much higher concentration of the wintergreen essence and to be a great improvement over the regular wintergreen tea. In fact, the presence of water is known to aid in the release of wintergreen oil from the leaves through a chemical process involving an enzyme specific to this plant. In the old days, the commercial production of wintergreen oil also involved soaking the leaves in water for a certain length of time.

More for Your Interest

Today, almost all of the oil of wintergreen used in flavourings is synthetically manufactured, and even the natural wintergreen oil usually comes not from the wintergreen plant but from the bark and twigs of the sweet birch (*Betula lenta* L.), which contains exactly the same compound, methyl salicylate, found in the wintergreen oil. This compound is made synthetically by distilling a mixture of salicylic acid and methyl alcohol. Wintergreen tea has long been a folk remedy for relieving headaches, colds, grippe, rheumatism, lumbago, gout, and sciatica. Modern pharmaceutical research has confirmed that methyl salicylate, the chief medicinal principle of wintergreen oil, does have antiseptic and anti-rheumatic properties and is closely related to aspirin.

Wintergreen berries are edible and make a pleasant nibble during wintertime outings in the eastern woodlands, since they can be dug out from under the snow (but see Warning above).

Labrador Tea

(Heather Family)

Other Names
Hudson's Bay tea, swamp tea, bog tea.

How to Recognize
This thin-stemmed, straggling evergreen shrub grows from 0.5 to 2 m high. The leaves are crowded near the ends of the twigs. They are short-stemmed and elliptic, with rounded to pointed tips. The upper surface is leathery in appearance, the underside densely woolly. The margins are conspicuously rolled under. The young leaves, pointed upwards, are light green with white fuzz underneath. As they mature they turn downwards and become dark green or eventually reddish-brown, and the fuzz underneath becomes a deep-rust colour. The attractive white flowers grow in dense round-topped clusters, and ripen into brown oval capsules. The entire plant has a sweet, spicy aroma, very noticeable when one is walking through a patch of the bushes.

Some botanists prefer to recognize *Ledum palustre* as two or more separate species, including *L. palustre* and the well-known *L. groenlandicum* Oeder, but we have treated the latter as a subspecies of *L. palustre*. It grows taller than other subspecies and has broader leaves. All subspecies of *L. palustre* are suitable for making tea.

Where to Find
Labrador tea is one of the most common shrubs of the northern boreal forest zone. It grows in thick, sometimes impenetrable, patches in bogs, muskeg areas, wet coniferous woods, and acid mountain meadows throughout Canada, and is nearly always found growing near the sponge-like *Sphagnum* mosses.

Warning
Two closely related shrubs, *Ledum glandulosum* Nutt. (sometimes called trapper's tea) and *Kalmia polifolia* Wang. (swamp laurel), both widespread in Canada, are reputedly toxic in concentrated doses and have apparently killed browsing livestock. Trapper's tea produces a rather bitter drink of inferior quality. These species are similar in growth form and habitat to Labrador tea, but neither has the characteristic fuzz on the undersides of the leaves, and *Kalmia* has pink blossoms. In our experience Labrador tea is as safe as regular tea or coffee, but it is said by some to produce drowsiness. We have never experienced such an effect, which may be due to physiological sensitivity in certain individuals or may in some cases be purely psychological. In any case, we recommend that you drink the tea only in moderate quantities and in low concentrations; do not boil the leaves for longer than 10 minutes.

How to Use
Of all the wild substitutes for tea available to Canadians this is probably the most popular and widely used. It was and still is used by Indian and Eskimo peoples across Canada, and in the past was used by many explorers, settlers, traders, and trappers. It has regained its popularity in the last few years, especially among those who are trying to become more self-sufficient and to live off the land as much as possible.

The leaves and occasionally the twigs and flowers are used to make the tea. The methods of collecting and preparing them vary widely. Some people say that the leaves should be collected in the spring before the flowers appear; others declare that the best time for harvesting is in the fall or late winter, when the leaves are mature and reddish-brown in colour. The leaves can be used fresh or, for storage, can be dried in the sun, over a fire, or in an oven. Some native peoples in western Canada used to steam the leaves in underground pits until they turned dark brown. They placed the rhizomes of the licorice fern (*Polypodium glycyrrhiza* D.C. Eat.) in with the leaves to flavour them.

Labrador Tea: We recommend that you collect the young leaves in early summer, place them in small quantities in paper bags, and hang them up in a warm place until they are completely dry and brittle, then store them in tightly sealed containers. Treated in this way they will keep for several years.

Labrador tea can be brewed in a number of ways. We think the best method is to place a generous handful of leaves in about 1 L (4 cups) of boiling water and allow them to simmer a short time, perhaps 5 minutes. The resulting tea has a yellowish-green tint and a sweet, flower-like fragrance reminiscent of jasmine tea. People who prefer it stronger leave it on the stove for several hours, but we do not recommend this procedure. A pleasant if somewhat weak beverage can be made simply by steeping the leaves in boiling water in a teapot, just as ordinary tea is made. You may find the flavour is enhanced by adding a few drops of lemon juice and a little honey. You can also use sugar and cream, but they tend to mask the delicate flavour.

Try experimenting with different mixtures of Labrador tea and other wild tea substitutes or even real tea itself. You may be surprised at the exotic beverages you can produce.

More for Your Interest

Labrador tea has been a favourite beverage among Indian and Eskimo peoples for many years. In western Canada, however, the various Indian names for it are generally derived from the English word "tea", suggesting that it was not used as tea before the arrival of Europeans. Many Indian people know the plant better as "Hudson's Bay tea", and some say the Hudson's Bay traders used to sell it. It is probable that officials of the Hudson's Bay Company first introduced the idea of using this tea in western Canada. Its popularity among Hudson's Bay employees is substantiated by Samuel Hearne in his journal of 1769 – 72 (p. 415):

> [Labrador tea] is . . . much used by the lower class of the Company's servants as tea; and by some is thought very pleasant. But the flower is by far the most delicate, and if gathered at the proper time, and carefully dried in the shade, will retain its flavour for many years and make a far more pleasant beverage than the leaves.

The plant has been an important medicine to native peoples, and as a tea is considered especially good for colds, sore throats and headaches. Because of its strong scent, Europeans used the leaves for keeping rodents out of corn cribs and repelling fleas, clothes moths, and other household insects.

Canada Blueberry and Relatives

(Heather Family)

Other Names
Canada blueberry is also known as velvet-leaf blueberry, blue huckleberry, and sour-top blueberry.

How to Recognize
There is a host of wild blueberry and huckleberry species in Canada. All can be used to make teas in the same manner as *V. myrtilloides*, which we chose as an example because it is so widespread in Canada. It is a low to medium-sized deciduous shrub with thin, elliptical leaves up to 4 cm long. The young twigs and leaves are covered with dense velvety hairs, which give the plant its alternate common name of velvet-leaf blueberry. The flowers are white to pinkish, broadly bell-shaped, and are borne in short clusters at the ends of the branches. The berries, blue with a whitish waxy coating, are large, juicy, and sweet. This plant is often cultivated for its fruit.

Other blueberries and huckleberries vary widely in growth form and bush height, leaf size and shape, and berry colour, size, and taste, but almost all are recognizable as relatives of the Canada blueberry and commercial blueberry varieties, and all have edible fruits.

Where to Find
Canada blueberry grows in dry bogs, shady woods, and forested rocky outcroppings. It can be found in every province in Canada and in the Yukon and the Northwest Territories, although within some provinces it is restricted to certain regions. For example, in British Columbia it occurs only in the central and eastern parts of the province, with isolated colonies in the lower Fraser Valley, where it was probably introduced. Other blueberry and huckleberry species are found in forests, clearings, and muskeg areas throughout Canada.

How to Use
Both the leaves and fruits of the Canada blueberry and its relatives can be used for tea. The leaves can be dried and shredded and used alone, or mixed with regular tea or other tea substitutes such as mint, evergreens, or stinging nettle. Blueberry tea is highly esteemed as a diuretic and is also recommended as treatment for diarrhoea. However, it can be enjoyed simply as a beverage and is sold in health-food stores.

Blueberry Tea: The berries make a delightful, fragrant tea, even more pleasant than tea made from the leaves. The fruits can be used fresh, but it is more practical to dry them in the sun or in a food dehydrator so that they can be used year round. When they are thoroughly dry, store them in a

sealed container. Use a generous handful, about 125 ml (1/2 cup) for a potful of tea, pour boiling water over, and allow to steep for about 10 minutes. Sweeten with a small amount of honey if you wish. Try mixing the berries with dried strawberries, apple peel, orange or lemon peel, or rose hips to obtain different fruit blends.

More for Your Interest

Blueberry-leaf tea is a well-known diuretic and blood tonic. The berries have long been used by herbalists in the form of a syrup to "cool the stomach", to "stay vomiting", and to cure coughs, lung diseases and ulcers.

Anyone who has tasted a wild blueberry or huckleberry pie will vouch for the excellence of this fruit. It has quenched the thirst and satisfied the appetite of many a backwoods wanderer, and has been served at tables everywhere in the form of jellies, jams, and syrups, and cooked in pies, pancakes, and muffins. Now you can enjoy it in yet a different form—as a hot beverage; it may become one of your favourite drinks.

Red Clover and White Clover

(Pea Family)

Trifolium pratense (above)
Trifolium repens (below)

Other Names
Red clover is also called pink or purple clover; white clover is known by some as Dutch clover.

How to Recognize
Many plants within the pea family are commonly called clovers. For example, some *Medicago* species are called bur-clovers, and certain *Melilotus* species are known as sweet-clovers. The true clovers of the genus *Trifolium* (meaning "three leaves") number about 300 species, with some 80 native to this continent. The two described here are of major agricultural importance, and both originated in Europe and Asia.

Red and white clover are well known to everyone. We all remember our childhood days of searching for four-leaved clovers and sucking the sweet nectar from the tiny flowers. Both species are herbaceous perennials, with characteristic compound leaves divided into 3 leaflets joined at one point. Red clover, when grown on soils with an adequate supply of phosphorus, potassium, and calcium, will grow up to 1 m high, forming large tap-rooted clumps with several erect stems. White clover has long, smooth, creeping stems that root at the nodes. They seldom exceed 20 cm in height and often form extensive patches. The globe-shaped flower heads of red clover are rather large,

with many pink to reddish-purple flowers. White-clover flower heads, borne on long stalks, are smaller, with white or pinkish flowers. The flowers of both species mature from the bottom of the head upwards; when they reach maturity after being pollinated, they close and turn downwards. Each tiny dry fruit produces 1 to 3 small but heavy seeds. It is estimated that 35 L of clover seeds weigh as much as 26 kg.

Where to Find

Both red and white clover were introduced to North America as crop plants, being used for hay, silage, pasture fodder, and soil improvement. They have established themselves widely throughout Canada in lawns, fields, gardens, waste places, and roadsides from sea level to subalpine elevations.

How to Use

Clover flowers of these and other species make a palatable tea that can be taken alone as a health tea, or mixed with other herbs such as spearmint or comfrey or with dried wild berries such as blueberries, cranberries, strawberries, or raspberries. For some people clover tea is an acquired taste. Herbalists prescribe it for soothing the nervous system and for relieving flatulence and bronchial coughs. It is an old and valued remedy for whooping cough.

Clover Tea: Preparation of clover tea begins on a dry, sunny day. Gather the mature clover flowers (leaves as well if you wish), and dry them in a well-ventilated room or in the sun, but never in the oven. The best procedure is to hang them in a cotton or paper bag near the ceiling for 2 to 4 weeks. When they are thoroughly dry, crush them into small pieces with your fingers. Store them in covered jars in a cool, dark place so as to retain as much of the volatile aroma as possible.

To make the tea, infuse about 15 ml (1 tbsp) dried red or white clover blossoms, with or without leaves mixed in, per 250 ml (1 cup) of boiling water and serve as you would any oriental tea. The addition of sugar or honey helps to bring out the fragrance.

There are many ways to serve clover tea. You should try some variations, such as the addition of a few drops of lemon, raspberry, or blueberry juice, or just a slice of lemon or some dried orange peel. Some like to drink clover tea flavoured with mint or sweetened with clover honey.

Iced Clover Tea: Infuse about 75 ml (⅓ cup) of clover blossoms in 1 L (4 cups) boiling water. Fill tall glasses with ice cubes and pour the hot tea over in the same way you would make iced tea. Sugar to taste and serve with a slice of lemon or orange or a mint leaf as garnish.

More for Your Interest

The rootstock of white clover can be eaten in the same way as that of the wild clover (*T. wormskjoldii* Lehm.), which the Indians of coastal British Columbia steam-cooked and dipped in oil or grease. The young leaves and flowers of both red and white clover and other clover species may be nibbled raw or used as a salad ingredient, although they are said to be difficult to digest and should therefore be eaten only in small quantities. As a cooked vegetable, they are sweeter than most cooked greens and are popular in Europe as well as on this continent.

Clover is widely acclaimed as a honey producer; being rich in flower nectar, clover honey is a favourite with honey lovers everywhere. The dried flowers and seeds of red and white clovers have been used for making bread in times of famine in Ireland. Because they are nutritious, widely known, common and unmistakable, clovers are ideal as a survival food. It should be noted, however, that one species, rabbit-foot clover (*T. arvense* L.), a grey, silky-headed weedy species, becomes unpalatable at the time it blooms.

Beech

(Beech Family)

Other Names
American beech, red beech.

How to Recognize
Beech is a deciduous tree up to 25 m tall and about 1 m in diameter. It is generally symmetrical, with a straight trunk and broad crown. The bark is characteristically smooth and light grey, blotched with darker patches. The leaves, up to 15 cm long, are alternate, simple, elliptical in outline, sharp-pointed, and serrated with small, sharp, incurved teeth. The flowers are small and fairly inconspicuous. Male and female flowers are borne separately but both are found on the same tree. The fruit is a triangular, sharp-pointed, thin-shelled, shiny brown nut about 2 cm long, borne usually in pairs in a prickly husk, which opens at maturity to release the ripe nuts. These are sweet in flavour and are a favourite with children and many animals. The wood is tough and strong, but easily worked. It is used for furniture, woodenware, and firewood.

Where to Find
Only one species of beech is native to North America. In Canada it is restricted to the hardwood region from Cape Breton to the north shore of Georgian Bay. It is usually mixed with other hardwoods, and seldom grows in pure stands. It requires rich, bottomland soils for optimum growth.

The American beech and the European, or common, beech (*Fagus sylvatica* L.) are very similar. Both species are commonly used in ornamental planting on account of their symmetrical forms and the colour of their bark and foliage, which remains remarkably free from insect attack and disease. The European beech is grown in a number of varieties, of which the copper, or purple, beech (var. *purpurea* Ait.) is probably the best known in Canada.

Warning
Beechnuts contain a saponin-like substance that may cause gastro-intestinal upset when consumed in very large doses. As with any food, they should be eaten in moderation.

How to Use
The nuts of both the North American and European beech can be used as a quite nutritious and acceptable substitute for coffee. Beechnut coffee can be taken straight or mixed with real coffee, chocolate, or milk, and sweetened with sugar or honey.

***Fagus grandifolia* Ehrh.**
(Fagaceae)

Beechnut Coffee: Gather the nuts and separate from the husks by shaking them in a sieve or bowl. The nuts should collect at the bottom, and the husks can then be discarded. Dry the nuts in an open, airy, warm place, and roast them in the oven at low heat (120°C. or 250°F) until they are crisp and dark brown inside. Remove the shell and inner skin (a thin acrid membrane) by beating or rubbing the nuts in the hands. Grind the roasted nuts in a coffee mill or electric grinder, or with a mortar and pestle.

To make the coffee, combine in a large mug 15 ml (1 tbsp) of beechnut powder with 50 ml (¼ cup) light cream, pour boiling water over the mixture, stir, and serve. It may be sweetened with sugar or honey or topped with a float of whipped cream.

Beechnut Nightcap

15 ml	beechnut coffee powder	1 tbsp
5 ml	cocoa *or* instant chocolate	1 tsp
50 ml	milk *or* light cream	¼ cup
250 ml	boiling water	1 cup
	sugar *or* honey (optional)	

In an electric blender combine the first three ingredients. Add the boiling water and blend until smooth. Serve hot with sugar or honey if desired. Serves one.

Beechnut–Chocolate Summer Drink

30 ml	beechnut coffee powder	2 tbsp
25 ml	instant chocolate	1½ tbsp
500 ml	cold water	2 cups
	2 scoops vanilla ice cream	

In an electric blender combine the beechnut coffee powder, instant chocolate, and cold water. When the mixture is thoroughly blended, add the ice cream. Mix until smooth, and serve on a warm day or at a children's party. Serves 2.

Café glacé

30 ml	beechnut coffee powder	2 tbsp
500 ml	cold milk	2 cups
	2 large scoops of coffee ice cream	
	rum or brandy to taste	

Put the beechnut coffee powder, milk, and ice cream into a blender and blend until smooth and creamy. Serve with a splash of rum or brandy. Serves 2.

More for Your Interest

The sweet-flavoured beechnut has in the past been put to many uses. A few decades ago the nuts were regularly harvested for consumption in Canada, or sold in many markets in the United States. Today they are no longer marketed to any extent. In Europe, especially in France, a clear, delicate oil is extracted from the nuts, equal in quality to olive oil and very popular. In regions where beech trees grow in abundance its nuts were, and still are, used to feed swine and other animals. In late spring, when the nuts germinate, the fleshy green leaves of the seedlings can be collected and cooked as a potherb. They are very sweet, with a nutty taste.

The so-called blue or water beech, a common tree better known as American hornbeam or ironwood (*Carpinus caroliniana* Walt.), is not a true beech but a member of the birch family. However, two well-known groups of trees are in the beech family—the oaks and the chestnuts. Oaks (*Quercus* species) are widespread, and while the acorns of the white oaks can be used as a passingly good coffee substitute, widely employed in Europe, they are not recommended here because there is still some question as to whether they can be safely consumed in large quantities. Acorns have been implicated in a number of cases of livestock poisoning. Sweet chestnuts (*Castanea* species), on the other hand, make an excellent coffee substitute. You can prepare chestnut coffee in the same way as beechnut coffee. Unfortunately, however, our American chestnut [*C. dentata* (Marsh.) Borkh.], which formerly occurred naturally in Canada in southern Ontario from the Niagara River and Lake Ontario westward to the Detroit River and Lake St. Clair, is now practically extinct because of the chestnut blight, a fungal bark disease introduced into North America from Asia. Being a major source of starch, this chestnut was an important food of the American Indians. In southern Europe and Asia, chestnut species are widely utilized as a substitute for wheat and potatoes. The world-famous French confection *marrons glacés* consists of boiled chestnuts dipped in clarified sugar and then dried. It should be noted that the horse-chestnut (*Aesculus hippocastanum* L.), widely planted as an ornamental tree in our towns and cities, is not a true chestnut, and its nuts are not fit for human consumption.

Canada Mint and Relatives

(Mint Family)

Other Names
Canada mint is also called wild mint or swamp mint.

How to Recognize
Bruise the leaves, close your eyes and smell —you will know a mint by its cool, aromatic fragrance alone. The wild mint, native to both North America and Europe, is an erect perennial growing from creeping rootstocks, usually less than half a metre high. As with all mints, the stems are squarish and the leaves occur in opposite pairs along the stem. The leaves themselves are oval to elliptical, pointed, and smooth or hairy, with toothed margins. The small mauve, occasionally white, flowers are borne in clusters in the axils of the upper leaves.

Two other mints, originally introduced as cultivated species from Europe, can also be found growing wild in parts of Canada. They are spearmint (*M. spicata* L.) and peppermint (*M. piperita* L.). These species can be distinguished from the Canada mint by their flowers, which are borne in tight, elongated clusters at the ends of the stems rather than in small tufts distributed along the stems in the leaf axils. Spearmint has stemless or sessile leaves, whereas peppermint has leaves that are distinctly stalked. All three species and other types of mints as well can be used as flavourings and in making tea. Mint lovers can easily distinguish the individual fragrances of different mint species. The presence of a group of related essential oils is the source of these fragrances.

Mentha arvensis

***Mentha arvensis* L. and other *Mentha* species**
(Lamiaceae or Labiatae)

Where to Find
Canada mint grows in moist places—in swamps and along streams and lakeshores, from lowlands to moderate elevations in mountains throughout Canada. Spearmint and peppermint can be found as common garden escapes along stream banks, ditches, bottomlands, and moist roadsides across the southern part of the country.

How to Use
Canada mint has long been used by North American Indians as a tea plant and culinary herb. Compared to spearmint and peppermint, it has a somewhat musty aroma and flavour. Nevertheless, it produces a more than passingly good tea, an ideal follow-up to a wild gourmet meal. Spearmint and peppermint are widely known as tea plants in Europe and North America, and are common ingredients in commercial tea mixtures.

Mint Tea: Mint leaves can easily be dried for future use: harvest them on a dry, sunny morning just before flowering time, and spread them out in a warm, well-ventilated place for several days until crisp. When thoroughly dried they can be stored in an airtight container.

The basic preparation of mint tea is the same, no matter what species is used. Put 30 ml (2 tbsp) of fresh bruised mint leaves *or* about 10 ml (2 tsp) dried leaves for each 250 ml (1 cup) of water in a warmed teapot, cover with the boiling water, and steep for about 10 minutes. Serve with a few drops of lemon and a little honey if desired, but taste first to see if you like it plain. This tea is excellent for indigestion, colic, and colds.

Mint Tea with Orange

30 ml	fresh mint leaves, bruised	2 tbsp
	or	
10 ml	dried mint leaves	2 tsp
5 ml	fresh or dried orange peel	1 tsp
250 ml	boiling water	1 cup

Put the mint leaves and orange peel in a warmed teapot, cover with boiling water, and let steep for 10 minutes. Serve in a large mug, garnished with a thin slice of fresh orange. Serves one. This is a good after-dinner drink.

Spiced Mint Tea

30 ml	fresh mint leaves, bruised	2 tbsp
	or	
10 ml	dried mint leaves	2 tsp
250 ml	boiling water	1 cup
1 ml	cinnamon	1/4 tsp
	3 cloves	

Put the mint leaves in a warmed teapot, cover with boiling water, and add the cloves and cinnamon. Let steep for 10 minutes. Strain before serving. Serves one. A good late-evening tea.

Mint–Raspberry Tea

15 ml	fresh mint leaves, bruised	1 tbsp
30 ml	fresh raspberry leaves, bruised	2 tbsp
250 ml	boiling water	1 cup
	12 fresh raspberries, crushed, and several whole ones for garnish	

Put the mint and raspberry leaves in a warmed teapot, cover with boiling water, and add the crushed raspberries. Allow the mixture to steep for 10 minutes. Serve in a cup garnished with 1 or 2 fresh raspberries. Serves one.

More for Your Interest

The mints and mint relatives contain a wide and most interesting assortment of aromatic essential oils, making them ideal not only as tea ingredients but also as culinary and medicinal herbs. Spearmint and peppermint are especially popular as flavourings for candies, toothpastes, chewing gum, and medicinal preparations. They are also well known for their carminative properties. Canada mint was used by Indian peoples as a medicine for colds, fevers, pains, swellings, colic in children, nausea, and vomiting.

One mint relative, yerba buena [*Satureja douglasii* (Benth.) Briq.], though restricted in distribution in Canada to the southern coast and the interior wet belt of British Columbia, is worthy of mention in a book on wild teas, for in our opinion it is one of the best. A low, creeping vine with oval opposite leaves, often bright purple beneath, and with tiny whitish flowers in the leaf axils, yerba buena has a spicy, aromatic scent. The name, Spanish for "good herb", is most appropriate. Indians all along the Pacific coast and, later, Spanish settlers, Hudson's Bay voyageurs and trappers, and early pioneers enjoyed yerba buena tea. It is made in the same manner as mint tea and often sweetened with brown sugar. Within its range it is fairly common, and if you have access to it don't miss it.

Wild Bergamot

(Mint Family)

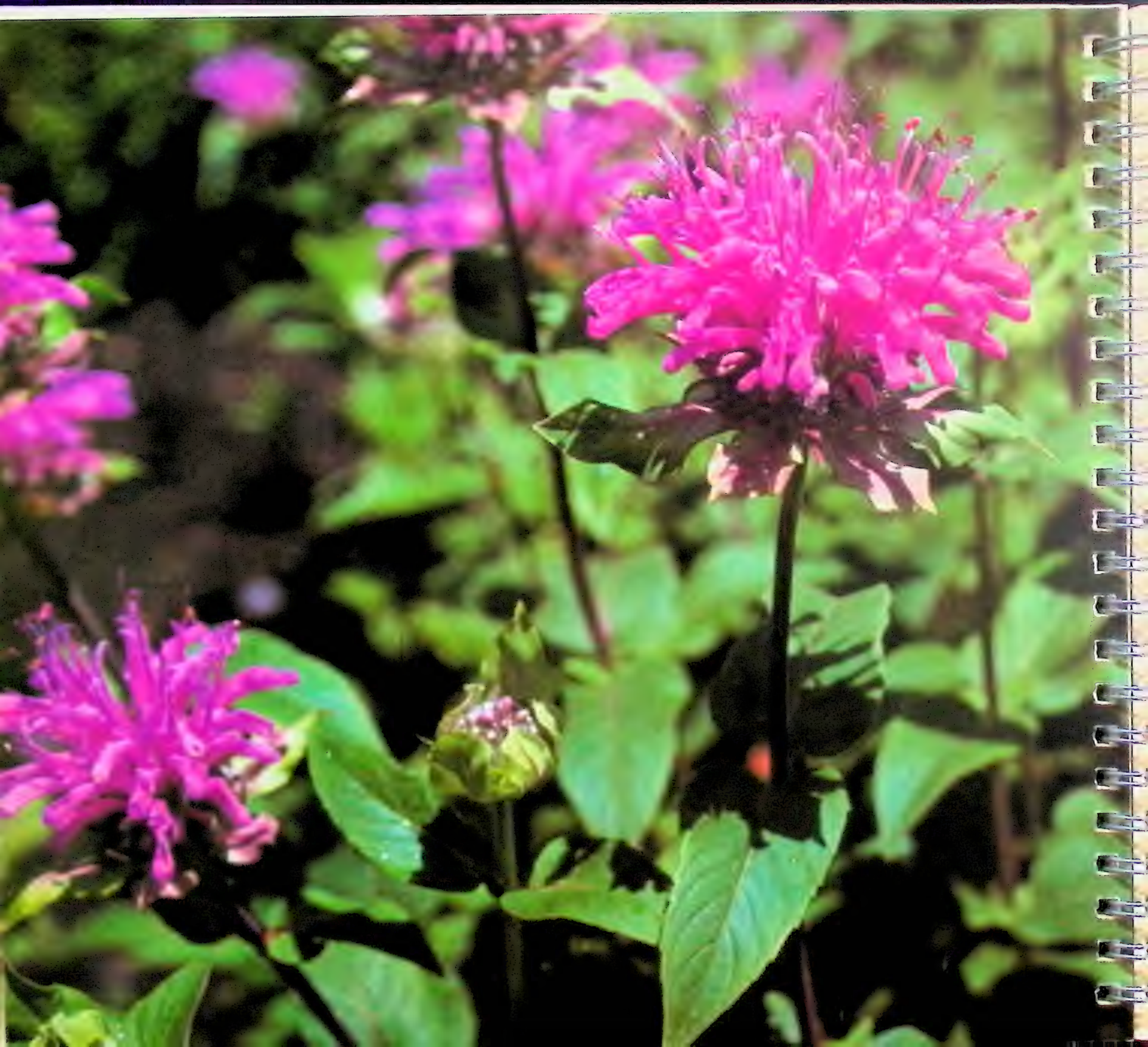
Other Names
Horse-mint, Oswego tea, purple beebalm, dry-land mint.

How to Recognize
This showy perennial herb grows from creeping rhizomes. The stems, usually about half a metre tall, are erect and seldom branched. The leaves grow in opposite pairs at intervals along the stem. They are narrowly oval to thinly triangular in shape, pointed, toothed along the edges, and appear grey-green in colour because of numerous tiny hairs over the surface. The flowers, mauve to purple, usually appear in July. They are long, tubular, and tightly clustered in roundish terminal heads. The entire plant yields an aromatic minty fragrance when crushed or bruised. A close relative of this species, the scarlet-flowered *Monarda didyama* L., is well known to both gardeners and hummingbirds.

Where to Find
Wild bergamot grows in loose patches in open woodlands and rocky places from Quebec to the British Columbia interior, usually at lower elevations.

How to Use
This aromatic herb was known and used as a tea by Indian peoples across the continent long before the first white explorers and traders appeared on the scene. Always partial to strong-scented plants, the native peoples, including the Iroquois of Quebec, the Kootenay of British Columbia, and many tribes living in the United States, enjoyed the tea as a beverage and also as a medicine for treating colds, fevers, pneumonia, flu, female disorders, stomach upsets, kidney troubles, and a host of other ailments. White pioneers and travellers soon learned of this effective remedy, and eventually it became officially recognized by pharmacologists as a medicine for increasing perspiration, encouraging menstrual flow in women, and relieving gastric upset caused by excess gas.

Bergamot Tea: Place a generous handful of the leaves, fresh or dried, in a warmed teapot, add boiling water, and steep the mixture for 5 minutes. Experiment with additions of lemon, honey, sugar, or milk, and try mixing the leaves with other types of wild tea herbs to obtain different flavours.



More for Your Interest

The generic name *Monarda* commemorates an early Spanish physician, Nicolás Monardez, who was born in 1493—the year after Columbus discovered the New World—and who first described many New World plant species.

Wild bergamot was used by North American Indians not only as a tea and a medicine but as a scent and perfume as well. The Cheyenne perfumed their favourite horses, especially the manes and tails, with the chewed leaves of this plant. The Crow mixed it with other sweet-smelling herbs and applied it as a perfume, often with a drop of beaver castorium, to their hair, bodies, and clothing. The Kootenay and Flathead sprinkled the dried pulverized leaves on curing meat to repel flies and maggots and to help preserve it. It is interesting to note that *Monarda* contains a volatile oil known as thymol, also found in common thyme (*Thymus vulgaris* L.), which is employed in medicine as an antifungal, antibacterial, and anthelmintic agent (anthelmintic—against worms). It is undoubtedly this chemical that was effective in curing and preserving meat.

Sassafras

(Laurel Family)

Other Names
Sassafrax, saxifrax.

How to Recognize
Sassafras is a tree of medium size, about 10 m or more high and 30 cm or more in diameter. Sometimes it is small and shrub-like, especially in the northern parts of its range. The trunk is short and freely branching into an open, flat-topped, irregular crown with brittle, contorted limbs. The roots have a tendency to grow numerous young sucker shoots. The bark on young stems is thin and reddish-brown; on the old stems it is thick and deeply furrowed. The wood is soft, coarse-grained, and orange-brown, with thin yellow sapwood. The leaves are alternate, smooth-edged, oval-shaped, and taper to a blunt point. Often they have a large, prominent lobe on one or both sides. The flowers are greenish yellow, in loose clusters, with male and female structures on separate trees. The fruits are pea-sized, dark blue, oval, and berry-like, on red, fleshy, club-shaped stalks. The bark, twigs, leaves, and wood all have a distinctive, pleasant aroma.

Where to Find
In Canada the range of this native tree extends only into southern Ontario, from the Toronto area west to the southern end of Lake Huron. In the United States it grows from Maine south to Florida and Texas. It is fairly shade tolerant and is found in hardwood forests, along fences and roadsides, and on abandoned farmlands.

Warning
Sassafras contains safrole, a compound that in high doses has been shown to cause tumours in rats and mice. Safrole is therefore not allowed as a food additive in Canada (Canadian Food and Drug Act B.01.046) or in the United States. However, since recent evidence seems to indicate that the way safrole is broken down in man may be different than in animals, it is still not known whether safrole can cause tumours in man.

How to Use
The bark, especially of the roots, but also of the twigs, makes a most refreshing tea, well known in eastern North America and Europe. One can easily recognize the fragrance of the tea, derived from the volatile oil, safrole, in the living bark and in the leaves and flowers, which can also be used to make a tea of lesser strength. The bark can be collected, dried, and stored for several years.

***Sassafras albidum* (Nutt.) Nees**
(Lauraceae)

Sassafras Tea: Simmer a handful of the dried bark in about 1 L (4 cups) of water for 5 minutes. For a stronger tea use a little more bark or boil the liquid a little longer, but not too long or it will become bitter. You can re-use the same bark two or more times, although the second and successive batches are apt to be weaker. Sassafras tea is a rich red-brown colour and is very pleasant and relaxing. It can be sweetened with honey, sugar, or, best of all, maple syrup. For children it can be diluted half and half with warm milk to make a soothing, pink-coloured drink with a distinctive root-beer flavour.

Sassafras tea is also used as a medicinal tonic, said to be good for treating high blood pressure, promoting perspiration in colds, and reducing fevers. Some Indian peoples used it in the past for treating measles. If, like most people in Canada, you do not have access to wild sassafras, you can buy the bark in health-food stores and other specialty shops throughout the country.

More for Your Interest

Sassafras leaves, dried and powdered, were formerly much used as a soup ingredient. They are highly mucilaginous, and served to thicken soups, or *gumbos* as they were called, as well as to give them a spicy flavour. The wood, soft and of a pleasing grain, is occasionally sawn into lumber and used for cabinetwork.

Sassafras was first discovered by Europeans in the sixteenth century, during the Spanish explorations of Florida. At first the scent was mistaken for that of cinnamon. The bark was soon imported to Europe, where it acquired a wide reputation as a medicine for treating colic, venereal diseases, and many other ailments.

Fireweed

(Evening-Primrose Family)

Other Names
Willow herb, blooming Sally.

How to Recognize
Fireweed is a tall, simple-stemmed perennial herb growing from a woody underground rootstalk. The leaves, numerous and dense, are narrow, smooth-edged, and lance-shaped, resembling the foliage of some narrow-leaved willows; hence the alternate name, willow herb. The bright reddish-purple flowers grow in long terminal clusters, and are very showy. Since they start blooming at the base of the cluster and mature up the stem as the season progresses, the blooming season can last for a month or more. The seed capsules are long and narrow, splitting longitudinally when ripe. The seeds, like those of dandelion and milkweed, are parachuted and can travel long distances on the wind.

A closely related species, river beauty (*E. latifolium* L.), can be used in a manner similar to fireweed. It is much shorter than fireweed, with larger flowers that grow in smaller clusters.

Where to Find
This beautiful flower could well be adopted as a national floral emblem, so widespread is it in Canada. It grows in extensive patches, sometimes covering many acres, in open clearings, burnt areas, logged-off sites,

riverbanks, and forests. It also occurs across Europe and the Soviet Union. River beauty is found on river bars, gravelly banks, and moist scree slopes across northern Canada and southwards in the mountains.

How to Use

Fireweed leaves can be steeped to make a refreshing tea, ideal for campers and backwoods travellers because it is so readily available. This tea was used by some Indian peoples in Canada, and also in Russia and in England, where it was said to be a common adulterant of real tea. In Russia fireweed tea is called *kwilski chai*.

Fireweed Tea: The best time to gather the leaves for tea is before the plants flower, while they are still young and tender. Use the leaves fresh, or dry them and store in a sealed container until needed.

To make the tea, place a generous handful of the leaves in a warmed teapot, pour boiling water over, and allow the mixture to steep for 5 to 10 minutes. The resulting infusion is light green in colour and has a sweetish taste, requiring neither milk nor sugar to improve it.

Some find this tea too weak and prefer to blend it with other wild teas, such as mint, wild bergamot, rose hip and dried strawberry, or with ordinary tea. Some people have found the tea slightly laxative, especially when made with fresh leaves; you would be well advised to drink it in small quantities at first, until you become used to it.

More for Your Interest

The sweet, succulent inner pith of fireweed stems was popular as a spring vegetable among the coastal Indians of British Columbia. The stems were split down the side with the thumbnail, sprinkled with sugar, and pulled through the teeth to scrape off the tender inner tissue. The Haida Indians of the Queen Charlotte Islands saved the outer fibres of the stems after they had eaten the inner part, and used them to make twine and fishnets. The stems can also be cooked, and are said to make a good substitute for asparagus. The leaves make an excellent potherb, used by the French-Canadian voyageurs under the name of *l'herbe frette*.

New Jersey Tea

(Buckthorn Family)

Other Names
Ceanothus, red root, mountain sweet, wild snowball.

How to Recognize
This low shrub, usually under 1 m high, dies back to a woody base near ground level every winter, putting out new shoots each spring. The leaves, borne alternately along the stem, are oval-shaped and pointed, with finely-toothed edges and 3 prominent veins, one central and two lateral. The flowers are small and white, in dense, feathery, long-stemmed clusters near the ends of the twigs. The fruits are small, dry, brown capsules, splitting into 3 sections.

Several other species of *Ceanothus* occur in Canada. One of these, known as snowbrush (*C. veluntinus* Dougl. ex Hook.), also called mountain balm or sticky laurel, is worthy of mention. It is a low shrub with showy white flower-clusters and shiny, leathery, resin-coated leaves, which remain on the bushes throughout the winter. The leaves can be used in the same way as those of New Jersey tea.

Where to Find
New Jersey tea grows in open woods and on rocky or gravelly slopes from the Maritimes to Ontario, and southwards to Florida and the Gulf of Mexico. Snowbrush is found in the West, from British Columbia southwards to California and eastwards in the United States to South Dakota and Colorado.

How to Use
This is one of the best-known wild tea plants in eastern North America, at least in an historical context. The leaves were regularly used as a tea substitute by the American colonists after the Boston Tea Party and later during the American Revolution, when Oriental tea was virtually impossible to obtain.

New Jersey Tea: The tea can be made from fresh leaves, gathered at the time of flowering, but it is even better when brewed from leaves that have first been slowly dried until crisp. Hanging the leaves in a paper or cloth bag in a warm, dry place is an effective method of drying them.

To make the tea, follow the same procedures as you would in brewing ordinary tea, with approximately the same proportion of tea to water. The tea closely approaches Oriental tea in appearance and flavour, but lacks the caffeine and theine that tend to bother some people. It is, in short, a very satisfying drink.

In western Canada, snowbrush has been used for tea by native peoples, taken not only as a pleasant aromatic beverage but as a medicine for purifying the blood, healing bones, and combating tuberculosis. It was also used externally as a wash for skin sores and eczema.

More for Your Interest

New Jersey tea, long known in folk medicine as an astringent, has been found by pharmacologists to possess definite powers in coagulating the blood when administered orally. The active coagulating substances consist of a mixture of acids, including oxalic, malic, succinic, malonic, and phosphoric acids. Also present are tannins, resins, and oils. The drug containing these compounds, marketed commercially under the prescription name of Ceanothin, is extracted from the "bark" of the roots. The Chippewa Indians used this plant as an ingredient in cough syrup, and the roots, which are bright red, were used by some to make a cinnamon-red dye.

Wild Strawberry

(Rose Family)

How to Recognize

There are at least three species of wild strawberry to be found in Canada, including the seaside strawberry [*F. chiloensis* (L.) Duchesne], the tall, or meadow, strawberry (*F. vesca* L.), and the blue-leaf, or mountain, strawberry (*F. virginiana* Duchesne). For the purposes of this book they are treated together because they can all be used in the same way and are basically similar in appearance. They scarcely need introduction, so common are they, and so similar to the garden varieties.

All are low, herbacious perennials, spreading vegetatively by means of long, trailing runners or stolons. The leaves, all basal, are long-stemmed and compound, each with 3 similar coarsely-toothed, conspicuously-veined leaflets joined at a common point. The flowers are showy, with 5 rounded white petals and yellow centres. There are usually several per stem. The fleshy, sweet berries, with their tiny seeds embedded on the outer surface, are known to almost everyone and are a favourite among our wild fruits. The various cultivated varieties of strawberries were originally derived from the wild species and are very similar in form, but with larger leaves and fruits.

Fragaria vesca

Where to Find
Wild strawberries can be found in open woods and meadows throughout Canada, except in the far north and the alpine tundra zone in the mountains. The seaside strawberry is confined to the immediate Pacific coast; the tall and blue-leaf strawberries are common across North America.

Warning
Fresh or dried strawberry leaves can be used for making tea, but if you are using dried leaves, make sure they are completely dry, since partially wilted leaves can be harmful. During the drying process, the leaves of the strawberry, blackberry, and raspberry apparently can develop a poison, whose composition is altered and made harmless as the leaves dry thoroughly.

How to Use
Everyone knows that wild strawberries are a delectable fruit, but how many know that they also make a refreshing drink? In addition, strawberry leaves are one of the richest natural sources of vitamin C. They can be used to make a pleasant tea, ideal for hikers as the plants are nutritious and readily available.

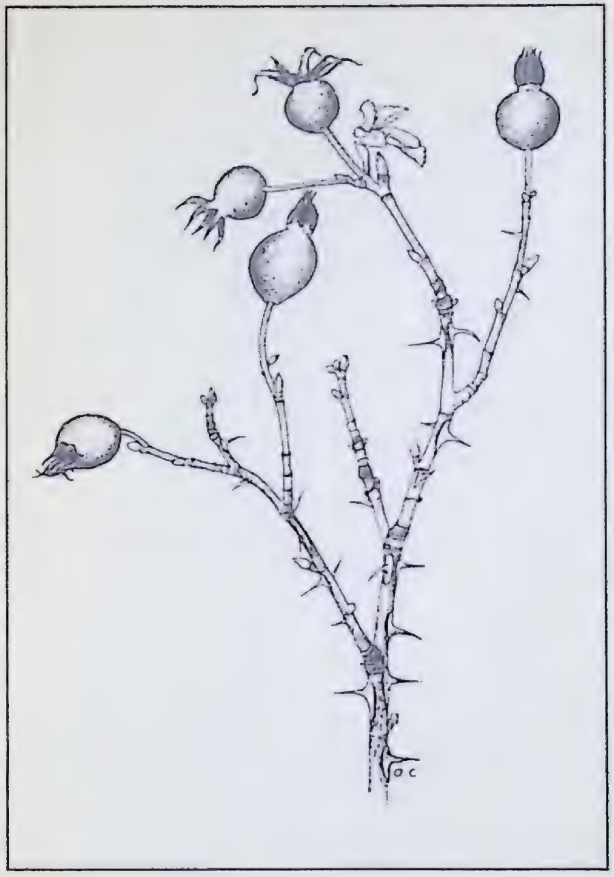
Strawberry Tea: Simply bruise the ripe fruits and add them, a small handful per cup, to boiling water, or blend in cold water and serve chilled. The fruits can be dried in the sun and stored for later use. Sometimes, during hot, dry spells the dried berries can be found right on the plants; just pick them off and store in a sealed container. The fresh berries make a delightful floating garnish for fruit punch.

Strawberry-Leaf Tea: Take the young leaves, fresh or thoroughly dried, and pour boiling water over them in a proportion of about 2 handfuls of leaves per litre (4 cups) of water. Allow the tea to steep about 5 minutes and then sit back and enjoy it. You can add the leaves to other herbal teas and also to regular tea. The leaves contain tannin, like regular tea, but have no caffeine.

Strawberry Vitamin Supplement: To make a concentrated vitamin C supplement that can be served hot or cold, simply fill a blender with fresh strawberry leaves, cover with cold water, and blend to a pulp. Place this liquid in a saucepan and allow to simmer about 15 minutes. Let stand overnight, then strain and store in the refrigerator. This liquid can be taken alone, or heated and mixed with honey and lemon juice or cider vinegar and taken as a tea. It can even be used instead of water to dilute frozen juices, as suggested by Euell Gibbons in *Stalking the Wild Asparagus*. If you want to store it for later use, pour the liquid into milk cartons and freeze.

More for Your Interest

An extract of wild strawberry leaves (made as a simple tea) is probably one of the most effective home remedies for diarrhoea. It is also used as a tonic and stomach cleanser and to combat eczema and dysentry. Externally it is used as a wash for sores and skin problems. The Okanagan Indians of British Columbia roasted the leaves, pounded them in a buckskin bag, and applied the powder as a disinfectant to open sores of any kind, particularly mouth sores of newborn babies, and to the navels of the newborn to promote healing. They would smear deer fat over this powder to hold it in place.



Wild Rose

(Rose Family)

Other Names
Briar, bramblebush.

How to Recognize
The many species of wild rose to be found across Canada are familiar to almost everyone because of their striking flowers and their unmistakable resemblance to the various domestic roses found in most gardens. Like their cultivated relatives, they are upright multi-stemmed shrubs with smooth reddish or greenish bark, armed with thin spines and sometimes stout thorns. Their compound leaves have 5, 7, or 9 oval-shaped leaflets that have pointed or rounded tips and are single- or double-toothed or serrated around the margins. The flowers of the wild species are all of the simple five-petalled form. Some are small, some remarkably large and showy. Some are borne singly on the branches, some in small clusters. The petals are rounded or notched, pale pink to deep rose in colour. The flower centres are pale to deep yellow, with numerous stamens. Most wild roses have a haunting, delicate fragrance, at once indescribable and unforgettable, and in many ways more pleasant than the heady perfume of the cultivated roses. The fruits, or "hips" as they are called, vary in size and shape, but all are orange to red when ripe and consist of a fleshy outer rind encasing a tightly-packed mass of light-coloured seeds covered with numerous sliver-like bristles. In most cases the long pointed sepals around the base of the flower persist on the upper ends of the fruits.

Rosa nutkana

***Rosa* species**
(Rosaceae)

There are over 100 species of wild roses in the world, all native to the northern hemisphere. Among the common Canadian wild rose species are the Nootka rose (*Rosa nutkana* Presl.), prickly rose (*R. acicularis* Lindl.), swamp rose (*R. pisocarpa* A. Gray), Wood's rose (*R. woodsii* Lindl.), dwarf wild rose (*R. gymnocarpa* Nutt.), meadow rose (*R. blanda* Ait.), and low prairie rose (*R. arkansana* Porter). Prickly rose is the floral emblem of Alberta.

Where to Find
Wild roses occur throughout Canada except in the far-northern tundra zone and in the alpine regions of our mountains. They are found in woodlands and meadows, and often form dense thickets along roadsides and fences. The Nootka rose, swamp rose, and dwarf wild rose are found in British Columbia. Wood's rose is common in eastern British Columbia and the Prairie Provinces, the low prairie rose occurs in the southwestern Prairie Provinces, the meadow rose grows from Manitoba east to New Brunswick, and the widespread prickly rose is found from Quebec to British Columbia and northwards to the Yukon.

How to Use
Rose hips are widely known for their high vitamin C content; three rose hips are said to contain as much of this essential vitamin as one whole orange. Rose hips are also high in vitamin A, and are richer than oranges in calcium, phosphorus, and iron. During the Second World War, rose hips attained tremendous importance in England and the Scandinavian countries when the German blockades cut off citrus supplies. In 1943 alone, British country people collected some 4.5 tonnes of rose hips, which were ground up and made into a rose-hip syrup and distributed among the population as a vitamin supplement. This syrup is still readily available through health clinics and most grocery stores in the British Isles.

Rose-Hip Tea: There are many different methods of making this delicious and highly nutritious beverage. We recommend that you gather the hips in the fall just after the first frost, although rose hips can actually be collected any time from August right through winter in most places. Remove the stem and blossom ends, wash the hips, and spread them out on a tray in a well-ventilated room for a few days, or in a slow oven for a few

hours, until they are crisp and brittle. They can be dried and used whole, but it is better, if you have the time, to slit the fresh hips down the side and remove the seeds before drying. (The seeds do have a high concentration of vitamin E, but they are covered with small sliver-like hairs that, if ingested, can irritate the digestive tract and cause what some Indian people call the "itchy-bottom" disease. If you do not have the time or patience to remove the seeds beforehand, careful straining of the rose-hip tea will eliminate these fine spines.) The dried hips, with or without the seeds, can be powdered or grated into small pieces and stored in a sealed container. To brew the tea, simply place about 15 ml (1 tbsp) of rose-hip powder (or about a dozen whole dried hips) per 250 ml (1 cup) into a teapot, pour over the desired amount of boiling water, and allow the tea to steep about 5 minutes.

Rose-hip tea is a clear pink colour and decidedly fruity in flavour. A small quantity of honey and a few drops of lemon enhance the flavour for some. Try experimenting with rose hips mixed with other tea substances. An excellent "tutti-frutti" blend can be made by combining equal quantities of dried shredded apple peel, dried orange and lemon peel, and rose-hip pieces. A few cloves add extra zest to this blend. Hibiscus blossoms (available at health-food stores), peppermint leaves, blueberries, saskatoon berries, and wild strawberries are other good blenders with rose hips.

Rose-Petal Tea: The fragrant petals of the wild rose can also be made into tea. About 250 ml (1 cup) of fresh or dried petals are needed for every 500 ml of prepared tea, but the fine delicate flavour of this tea makes all your trouble in gathering the petals worthwhile.

Although young rose leaves and sprouts can be included as an ingredient in herb teas, they do not seem to yield enough flavour to be used on their own.

Rose-Petal Jam

500 ml sugar	2 cups
125 ml water	½ cup
500 ml rose petals	2 cups
15 ml lemon juice	1 tbsp
15 ml orange juice	1 tbsp

Dissolve the sugar in the water and add the rose petals, lemon juice, and orange juice. Place this mixture in a pan over low heat and stir constantly for half an hour until the petals have dissolved. Cool, pour into a clean glass jar, and store in the refrigerator. This preserve is particularly nice for jelly doughnuts. It is popular in Europe and in the Middle East, especially with yoghurt.

More for Your Interest

Rose hips are a valuable emergency food because they remain on the bushes over the winter. As well as being used for tea, they make excellent jams, jellies, and syrups, and can even be combined with lemons to make a vitamin-rich cold lemonade. Many Indian people used them as decorations on necklaces and clothing. Try this idea: gather a bucketful of rose hips just before Christmas and string them with a sharp darning needle. Drape these bright strings of "beads" over the branches of your Christmas tree along with strings of cranberries and popcorn to make a truly natural Christmas tree. When it is time to take down your tree, the rose hips will be dried and ready to store away to be enjoyed later as tea.

Indians of western North America believed that wild roses possess properties harmful to ghosts and evil spirits. For this reason, peoples such as the Okanagan of British Columbia often placed rose branches all around the house and yard of a newly deceased person to prevent his ghost from returning and haunting the place. Relatives and friends drank a tea made from rose branches to protect them from the ghost, and a large rose branch was used to sweep out the grave before the corpse was lowered into it so that none of the living around the grave would be "drawn down" into it.

Rubus parviflorus

Wild Raspberry, Thimbleberry, Blackberry, and Relatives

(Rose Family)

How to Recognize

There are many different *Rubus* species that can be used to make tea. As a group they are highly variable in size, growth form, leaf shape, and berry colour. The simplest way to recognize a member of this genus is by the fruits, which, while they may differ in size, are all of the characteristic raspberry or blackberry type, with several to many tiny drupelets clustered together into a fleshy compound berry. Among the species most suitable for tea are the common wild raspberry (*Rubus idaeus* L., also known as *R. strigosus* Michx.), the thimbleberry (*R. parviflorus* Nutt.), and trailing wild blackberry (*R. ursinus* Cham. & Schlecht.). The wild raspberry closely resembles the cultivated raspberry, of which it is a forerunner, having erect prickly stems, three- to five-parted compound leaves, white clustered flowers, and juicy red fruits, whose flavour surpasses that of the garden varieties. Thimbleberry is also an erect shrub, but with smooth stems and large, simple, maple-like leaves. The flowers are white or pinkish-tinged, in large showy clusters, and the fruits are soft, red, and fleshy. Trailing wild blackberry is a prickly-stemmed vine with three-parted leaves, white flowers, and small elongated berries that are red when unripe, black when ripe.

Where to Find
Wild raspberry is found in woodland clearings and on rocky or gravelly slopes from British Columbia to Newfoundland, and northwards to the Yukon and Northwest Territories. Thimbleberry grows in dense thickets along roadsides and in open woods and clearings from British Columbia to the Great Lakes region. Trailing wild blackberry is restricted to southwestern British Columbia, where it is a common resident of woods, clearings, and logged-off areas.

Warning
Dried or fresh leaves can be used to make raspberry, thimbleberry, or blackberry tea, but if you use dry material be sure it is completely dried before using, as the partially wilted leaves can be harmful. During the drying process, the leaves of the blackberry, raspberry, and strawberry apparently develop a poison, whose composition is altered and made harmless as the leaves dry thoroughly. Euell Gibbons, in *Stalking the Wild Asparagus*, mentions cases of livestock being poisoned by wilted berry leaves.

How to Use
The shoots, twigs, and leaves of these and other *Rubus* species can be used to make a pleasant if rather bland tea. These species were also widely used as a medicine for many ailments by North American Indians and Europeans alike. Some Indian peoples preferred the old dead leaves to the fresh green ones for making the beverage, especially if wild blackberry or thimbleberry were used. You can experiment with fresh leaves picked at flowering time, old dry leaves, or different combinations of leaves and twigs, fresh or dried.

Berry-Leaf Tea: To make this tea, place a generous handful of the leaves and twigs into a warmed teapot, pour boiling water over, and steep the mixture for 5 to 10 minutes. Sweeten if you wish with honey and sugar. Try mixing the leaves with other wild tea herbs such as mint, wild bergamot, or wintergreen.

Berry Tea: The berries of these species also make a refreshing tea additive. Place a few fresh berries in with the tea while it is steeping to add colour and flavour, or dry the fruits in the sun and use them in winter tea blends.

More for Your Interest

The medicinal virtues of raspberry-leaf tea are many. Both European and Indian peoples know it as an effective remedy for diarrhoea and dysentry. It was said to be a good stomach tonic and physic, and was used externally for cleansing wounds and ulcers and as a poultice for sores, burns, and scalds. It was used as a mouthwash and gargle for mouth sores and sore throats, especially for young children. Blackberry and thimbleberry leaves contain similar medicinal qualities and can be used in the same manner.

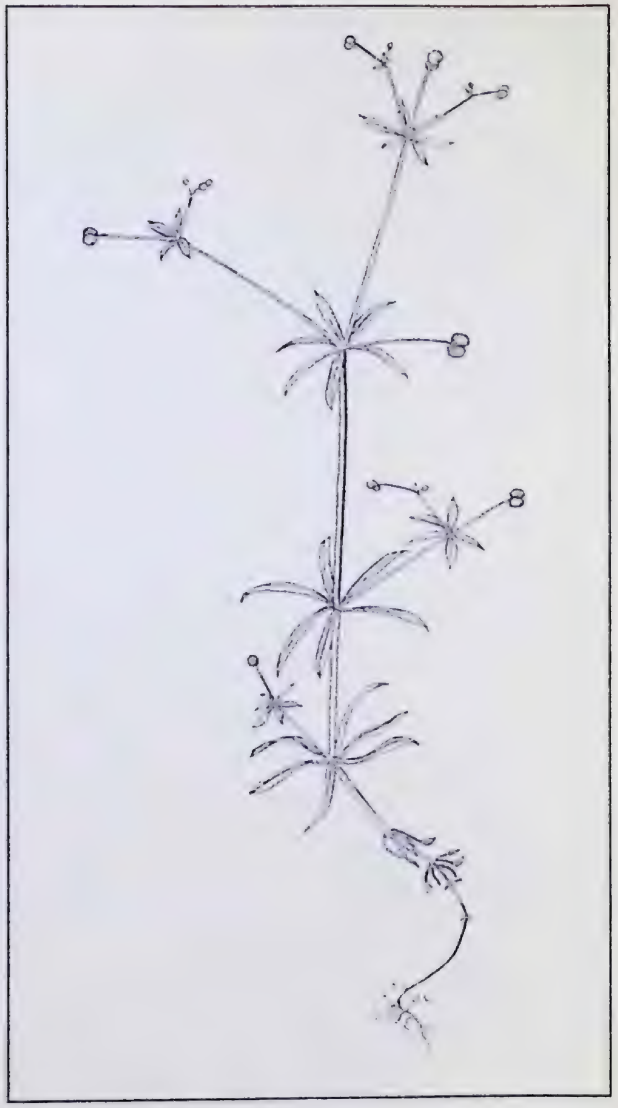
Common Bedstraw

(Madder Family)

Other Names
Cleavers, goosegrass.

How to Recognize
Bedstraw is a weak-stemmed but fast-growing annual that scrambles on other plants and can attain a length of well over 1 m. The leaves, small, narrow and tapering at both ends, grow in whorls or circles at intervals along the stem. The stems and leaf margins are covered with numerous tiny, hooked bristles that make the plants rough and sticky to the touch and help them to cling to the surrounding vegetation. The flowers are tiny and white, in small, loose clusters towards the ends of the stems. Almost everyone is familiar with the fruits, even if the plant itself is not recognized. These small, round burs, growing in pairs, cling with infuriating tenacity to children's socks and pets' fur. Several other species of bedstraw occur in Canada and may be used similarly, although they are generally not as weedy and persistent as this one.

Where to Find
Common bedstraw is widespread in the northern hemisphere, and occurs in a variety of habitats, including gardens and fields, over most of temperate North America. It is native to both this continent and Europe. One of the best places to find it in quantity is along shorelines above the high-water mark.



***Galium aparine* L.**
(Rubiaceae)

How to Use

The seeds of common bedstraw make the best substitute for coffee of any plant in Canada. Being a member of the same family as true coffee, it has fruits that, when roasted, come very close to coffee in flavour and aroma. It is true that gathering its small fruits is tedious work, but with today's coffee prices you will find bedstraw brew a bargain anyway.

Bedstraw Coffee: Gather a few handfuls of ripe fruits, just as they are turning from green to brown. Roast in an oven at about 120° to 150°C (250° to 300°F) until they are hard and crisp and reach the colour of roasted coffee. Grind to a powder using a blender, coffee grinder, mortar and pestle, or rolling pin on a chopping board. Percolate as you would regular coffee in comparable quantities, 25 ml (1½ tbsp) of powder to 250 ml (1 cup) of water, or pour boiling water over the powder, cover, and allow to steep for 10 to 15 minutes.

Drink this brew straight or with milk, adding sugar or honey if desired. You will find bedstraw coffee very similar to your regular coffee—good to the last drop!

Bedstraw coffee can be served in a number of interesting ways. You could combine the freshly brewed coffee with hot cream or top it with a float of whipped cream and grated orange peel. Or, for a change, try serving it like Irish or Spanish coffee, with sugar and a measure of whisky or brandy added, topped with thick cream.

More for Your Interest

The young growth of bedstraw, before the fruits appear, can be used as a potherb or mixed with other vegetables or weeds, such as stinging nettle or lamb's-quarters, in soups and stews. The roughness, caused by tiny hooked barbs, disappears with cooking. Herbalist John Gerard recorded in his famous *Herbal or General History of Plants* (p. 1123): "Women do usually make pottage of clevers with a little mutton and otemeale, to cause lanknesse, and keep them from fatnesse." The people of Cheshire, where one of the best English cheeses is made, use bedstraw in their rennet when processing the cheese. The stems and leaves have been used in parts of Europe to strain straws, hair, and other foreign materials out of fresh milk.

A close relative of the common bedstraw, the yellow bedstraw (*Galium verum* L.), is very fragrant when dried, and is believed to be the plant that filled the manger at Bethlehem. Mixed with straw, the same plant has been used for centuries for stuffing mattresses, especially in Eastern Europe.

Basswood

(Basswood Family)

Other Names
American linden, lime, lime-tree, whitewood.

How to Recognize
Basswood is a deciduous tree, normally 20 to 25 m tall and up to 1 m in diameter. The trunk extends upwards into a spherical crown, which is composed of many relatively small branches. If grown as a solitary tree, the branches frequently droop, nearly to the ground. The bark is grey and smooth at a young stage, at maturity becoming darker and furrowed, splitting into scaly ridges. The leaves, up to 12 cm long, are simple, heart-shaped, sharply pointed, and coarsely toothed, with tufts of brown hairs along the veins on the lower surface. The flowers are dull-white or yellowish, about 2 cm in diameter, and borne in clusters on a simple stalk, which is attached to a narrow leaf-like bract. Flowering time is June to July. The fruit is a dry, woody, pale-brown, nut-like structure, measuring up to 1.5 cm in diameter and covered with short brown hairs.

The American basswood is a close relative of the European linden, which in Great Britain is known under the name of lime, or lime-tree. The European species, *Tilia cordata* L., is very similar to *T. americana* L. in habit. It differs chiefly in the size of the leaves, which are much smaller in *T. cordata*. These two and other *Tilia* species can be used in similar ways for making tea and as medicines.

Where to Find
Tilia americana is the only basswood native to Canada, and is found from the valley of the St. John River in New Brunswick westwards to southern Manitoba. It usually grows with other hardwoods and never forms pure stands. It is commonly planted in other provinces as an ornamental or shade tree. The European *T. cordata* can also be found on the North American continent as an ornamental.

How to Use
The use of the dried flowers of basswood and linden for making a hot beverage is quite well known in North America and famous in Europe. Similar to camomile tea, linden (basswood) tea is one of the most popular teas in France and other European countries. Promoting perspiration, it is commonly used as an alternative to aspirin in the treatment of colds. As it also soothes the nerves, aids digestion, and helps to provide good sleep, it is one of the favourite mild medicines, given even to small children.

***Tilia americana* L.**
(Tiliaceae)

Basswood Tea: To make this healthful drink you should start on a sunny, hot day when the basswood trees are in full bloom. Gather the blossoms and spread them thinly on papers in a warm room, or outside in the sun. When dry place them in containers with secure lids. They dry quickly and will store very well.

In brewing the tea, proceed as with any Oriental tea. You should do some experimenting with the amount of dry flowers until a strength suitable to your taste is reached: 15 ml (1 tbsp) per 250 ml (1 cup) of tea is a good average. Sweeten with honey if you wish.

Today you can buy European linden tea in health stores, imported mainly from Germany, but why import something to be found in our own country in abundance?

More for Your Interest

The inner bark of basswood, rich in strong bast fibres, was used by American Indians in the manufacture of rope and cords. The fibres were obtained by stripping off the young bark in the spring, soaking it, then separating the fibrous inner tissues from the outer bark. These were twisted or plaited to make cordage. The soft, light wood is ideal for carving, and was used by the Iroquois Indians for their ceremonial masks.

Basswood in America and linden in Europe are among the best, if not the best, honey-producing flowers. Because of its flavour, basswood or linden honey has in the past found wide use in medicine and has been a valuable ingredient for making fine liqueurs. An attempt was made in Germany to market a candy made of linden flowers and fruits. Known as "linden-chocolate" or "lime-chocolate", it was made by grinding the flowers and fruits together into a thick paste resembling chocolate in flavour. Unfortunately the candy did not keep well and the project was abandoned. Hard-boiled linden candies are common in eastern Europe as a remedy for coughs.

Basswood flowers have also been widely used as a cosmetic. They are said to be good against freckles, and also to improve circulation, helping to smooth wrinkles. Some people in Europe use linden flowers in the form of compresses or in boiling water as a stimulating facial steam. In European herbals you will find many interesting cures attributed to linden. It is almost a universal medicine, used for everything from providing relief for tired feet to stimulating the growth of hair. By steeping the dry blossoms in your bath water you will enjoy a fragrant and relaxing bath that will calm your nerves and generate a good sleep.

To treat a cold, infuse a handful each of sage leaves, peppermint leaves, camomile flowers, and basswood flowers in boiling water and inhale the steam. It really works and is pleasant to take. To relieve cramping pains and to calm the nerves, steep a handful of linden or basswood leaves, picked in spring and shredded, in 250 ml (1 cup) of boiling water for half an hour and drink the resulting tea.

One of the authors, Adam Szczawinski, vividly recalls his boyhood days in Poland, where linden trees played an important role in the daily life of his family. Two rows of old linden trees beside the house supported about 150 beehives. Every summer when these trees started to bloom the young boys of the household, equipped with large sacks, would climb up into the trees to get the prime, fragrant blossoms. These were spread out in the sun to dry on special wire-net frames, then stored away for winter. As the household was quite sizeable, a considerable supply of linden was needed. The blossoms were used in many ways. For the teenage girls, linden took the place of cosmetics (which weren't so readily available in those days) as a facial treatment, and as the author vouches, certainly would be difficult to surpass in the pleasing results it gave. The blossoms were also used to make a refreshing bath, as described earlier. During World War One, linden tea was the only tea served in the home.

Stinging Nettle

(Nettle Family)

Other Names
Nettle, great nettle, devil's leaf, "Indian spinach".

How to Recognize
Nettles are so well known they need no description. As the famous herbalist Nicholas Culpeper pointed out in the early seventeenth century, they may be found by feeling for them in the darkest night. Even small children know the plant and carefully avoid it. It is a coarse perennial herb that grows from long white rhizomes or underground stems. The aerial stems are simple and erect, growing up to 2 m high. The opposite pairs of oblong to egg-shaped leaves are coarsely veined and sharply toothed. Both the stem and leaf surfaces are covered with bristly hairs containing an irritating oil rich in formic acid. This is released when the plant is touched, causing an intense stinging or burning. The flowers are very small, green, and rather inconspicuous. They are located in drooping clusters in the axils of the leaves. To some degree they are like oak flowers.

Where to Find
Nettles require rather moist and fertile soil, and commonly grow in large patches along streams, rivers, and roadsides, on vacant lots, and in gardens with wet, shady, neglected spots. They are common across North America, being native to both this continent and Eurasia.

How to Use
Well known as a delicious potherb, stinging nettle can also be used to make a pleasant, nutritious tea, rich in iron and vitamin C. This tea has been used for centuries by herbalists to purify the blood and to treat sore throats, bronchial, asthmatic and rheumatic complaints, and gout, among other ailments. Those who know it well, however, say it should not be brewed too long or taken in large doses, as it may cause an unpleasant burning sensation.

Nettle Tea: Harvesting the nettles can be a problem! Gloves are a necessity if you want to escape the sharp, painful sting of the leaves. It is best to gather the new growth in the spring, when the stems are about 10 to 20 cm high. They make an ideal potherb at this time—tender and of mild flavour. Of course, the stinging properties are eliminated with cooking. If you do use nettles as a vegetable, save the vitamin-rich cooking water and use it as a soup stock or tea concentrate. The leaves can easily be dried, to be used for tea throughout the year. Indeed, you can purchase dried nettle tea at almost any health-food store. To make your own, just spread the leaves out on a wire screen in a warm, well-ventilated spot until they are brittle. Then crush them into small pieces and store in a sealed container.

Urtica dioica L.
(Urticaceae)

Use about 5 ml (1 tsp) of dried powdered leaves per 250 ml (1 cup) of boiling water for tea. Steep anywhere from 15 minutes to an hour or more, depending on your personal taste. If you are taking the tea regularly as a tonic, dilute it with half again as much water and take a wineglassful each morning and evening. This is an ideal spring pick-me-up. (When dried, nettles lose their stinging properties.)

Try mixing and matching your nettle tea with other spring tea herbs. How about nettle–strawberry-leaf tea, for example, or nettle–fireweed brew? Don't be afraid to try new combinations.

More for Your Interest

The nettle's venom is injected into the skin through numerous tiny, hollow hairs. Although painful and irritating, it is dispelled within a day or two without noticeable long-term effects. Indian peoples in North America and some European peoples often purposely subjected their limbs to beatings with nettle stems as a counter-irritant for muscular, arthritic, and rheumatic pains. Many have testified that this treatment is highly effective in reducing such pains.

Nettles, growing or mixed in compost, are said to stimulate the growth of other plants, to make them more resistant to disease, and to improve the storage life of root vegetables and tomatoes. A complete liquid plant-food can be made by soaking a bucket of nettles in rainwater for two to three weeks, or by briefly boiling a handful of fresh leaves or 15 ml (1 tbsp) of dried powdered leaves in 500 ml (2 cups) of water. Cool and strain this liquid, dilute it with 4 parts of water, and spray it on the leaves of your plants, in the greenhouse or outside. The addition of a small quantity of kitchen soap will help the solution adhere to the leaves. It is not only a good foliar feed, but is said to be effective against mildew, black fly, aphids, and plant lice.

This versatile plant can also be made into a pleasant wine or a refreshing beer. To obtain recipes for these beverages, the reader is referred to Audrey Wynne Hatfield's delightful book, *How to Enjoy Your Weeds*.

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Glossary

Alternate
Borne singly at successive nodes.

Angiosperm
A true flowering plant characterized by having ovules (undeveloped seeds) enclosed within an ovary.

Annual
A plant that lives only one year or season.

Axil
The angle formed by a leaf or branch with the stem.

Axis
The central line of any organ or support of a group of organs, such as a stem.

Basal
Pertaining to the base or lower part of the plant.

Biennial
A plant that lives only two years; flowers are usually produced only in the second year.

Blade
The expanded, usually flat portion of a leaf.

Bract
A modified leaf, either small and scale-like (as around a thistle flower head) or large and petal-like (as on a dogwood flower head).

Calyx
The outer of two series of floral leaves or bracts.

Capsule
A dry, dehiscent fruit composed of more than one carpel.

Carpel
A single pistil or one unit of a composite pistil.

Catkin
A drooping, elongated cluster of flowers, either male or female, as on willows, alders, and birches.

Clasping
Entwined about or growing very close to something, for example the stem of a plant.

Compound
Composed of two or more parts.

Cone
A reproductive structure, either male or female, of certain trees, consisting of a central axis surrounded by numerous woody scales that bear the seeds or pollen, for example a pine cone.

Conifer
Any cone-bearing tree, such as pine, fir, or spruce; one of a major group of Gymnosperms.

Deciduous
Not persistent; refers to a plant that sheds all its leaves annually, as opposed to being evergreen.

Dehiscent
Splitting open at maturity by means of slits or valves.

Dicotyledon
A large group of flowering plants characterized by having embryos with two seed leaves (cotyledons), net-veined leaves, and flower parts in fours or fives (as opposed to monocotyledons).

Drupelet
A small fruit with a soft, fleshy part around an inner stone that contains a seed.

Elliptic
Oval in outline.

Gland
A secreting surface or structure, often a hair-shaped appendage.

Glandular
Having glands.

Gymnosperm
A cone-bearing seed plant characterized by having ovules (undeveloped seeds) that are naked, not enclosed within an ovary.

Head
A dense cluster of sessile or nearly sessile flowers or fruits on a very short axil or receptacle.

Lanceolate
Considerably longer than broad, tapering upwards from the middle or below; lance-shaped.

Latex
A milky juice exuded by some plants when they are broken or injured.

Leaflet
An ultimate unit of a compound leaf.

Monocotyledon
A large group of flowering plants characterized by having embryos with a single seed leaf (cotyledon), parallel-veined leaves, and flower part in threes (as opposed to dicotyledons).

Node
The place upon a stem that normally bears a leaf, a pair of opposite leaves, or a whorl of leaves.

Opposite
Growing directly across from each other at the same node (in reference to leaves).

Ovary
The structure in flowering plants that encloses the ovules, or undeveloped seeds.

Palmate
Resembling a hand with the fingers spread (in reference to a leaf).

Peduncle
The primary flower stalk supporting either a cluster or a solitary flower.

Perennial
A plant that lives more than two years.

Petal
One of the divisions of the corolla of a flower.

Petiole
A leafstalk.

Pinnately compound
A compound leaf with leaflets on either side of a central axis in a feather-like arrangement, for example the leaf of a walnut or elderberry.

Pistil
The female organ of a flower, composed of one or more carpels.

Potherb
A plant whose leaves or stems are cooked for use as greens.

Raceme
An elongated flower cluster with each flower on a stalk.

Ray flower
A petal-like showy flower at the margin of the disc of a composite flower, such as a sunflower or daisy.

Rhizome
An underground stem or rootstock distinguished from a true root by the presence of nodes, buds, or scale-like leaves.

Rootstock
A rhizome.

Rosette
A cluster of leaves, usually at the base of a plant.

Scale
A small, thin, or flat surface.

Sepal
One of the modified leaves of a calyx.

Serrate
With sharp teeth on the margin pointing forward.

Sessile
Not stalked; sitting.

Species
The fundamental unit in the classification of plants and animals.

Spike
An elongated flower cluster with each flower attached directly to the central stalk.

Stamen
A male, or pollen-bearing, organ of a flower.

Stolon
A runner, or any basal branch that is inclined to root.

Succulent
Fleshy and juicy; also a plant that accumulates reserves of water in the fleshy stems or leaves.

Taproot
A main root, growing vertically downward, from which smaller branch roots grow out, for example a carrot.

Terminal
Growing at the end of a stem or branch.

Tuber
A thickened and short underground stem, for example a potato.

Waste places
Areas that have been disturbed by man but not actually cultivated.

Whorl
A group of three or more similar organs radiating from a node.

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